# TACSO'NIA PINNATISTI'PULA.

## FEATHER-STIPULED TACSONIA.

EXOGENÆ, OR DICOTYLEDONEÆ.

Natural division to which this Plant belongs.

NATURAL ORDER, PASSIFLORACEÆ.

CALYCIFLORÆ, OF DECANDOLLE.

Artificial divisions to which this Plant belongs.

MONADELPHIA, PENTANDRIA, OF LINNEUS.

No. 171.

GENUS. Tacsonia. *Jussieu.* Calyx tubo elongato cylindrico, limbo quinquepartito, laciniis intus coloratis. Petala quinque, ad faucem calycis inserta, cum laciniis calycinis alterna, iis subconformia at magis colorata. Corona filamentorum bi- vel pluriserialis, tubo calycis intra corollam inserta, quarum series exterior e filamentis liberis constat, interior e filamentis conniventibus sæpissime connatis. Stamina quinque, toro inserta, cum ovarii stipite alte connata, apice libera divergentia. Antheræ versatiles. Ovarium extra staminum tubum breviter stipitatum, uniloculare, placentis tribus parietalibus. Ovula numerosa. Styli tres, liberi. Stigmata capitata. Bacca pulposa. Frutices scandentes. Folia alterna, stipulata. Pedunculi axillares, nonnulli cirriferi vel cirriformes cum pedunculis floriferisex eadem axilla floriferi, sub flore bracteati.

SPECIES. Tacsonia pinnatistipula, (*Jussieu*) Stipulis subulato-multifidis, foliis trifidis rugosis subtus tomentoso-pubescentibus, bracteis ovatis foliaceis subincisis serratisve liberis, corona interiore dimidium petalorum subæquante.

Character of the Genus, Tacsonia. Calyx with a long cylindrical tube, the limb five-cleft, the divisions coloured inside. Petals five, inserted at the throat of the calyx, alternating with its divisions, nearly similar to them but more coloured. Crown of the filaments inserted in the tube of the calyx within the corolla, consisting of two or more concentric rows, of which the outer is composed of free filaments, the innermost of connivent, and most frequently connate ones. Stamens five, inserted on the torus and connected high up with the stalk of the ovary, free at the top, spreading, each bearing a versatile anther. Ovary borne on a stalk projecting slightly above the sheath of the stamens, one-celled, with three many-ovulated parietal placentæ. Styles three, each bearing a capitate stigma. Fruit pulpy.

Description of the Species, Tacsonia pinnatistipula. A tall growing shrubby climber which, like the larger Passifloræ, will, if allowed to do so, line almost any conservatory. Branches, when young, clothed with a short loose down. Stipules small, deeply split into a number of fine thread-like laciniæ. Leaves alternate, borne on foot-stalks of about an inch in length, broadly heart-shaped and three-nerved at the base, deeply cleft into three ovate-lanceolate

# The BOTANIST:

CONSISTING OF

*Highly finished Representations*

OF TENDER AND HARDY

## Ornamental Plants:

WITH

*Descriptions, Scientific and Popular; intended to convey both Moral and Intellectual Gratification.*


CONDUCTED BY B. MAUND, F.L.S.

ASSISTED BY

THE REVD J. S. HENSLOW, M.A.F.L.S.

REGIUS PROFESSOR OF BOTANY

IN THE UNIVERSITY OF CAMBRIDGE.


*Vol. 3*


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THE

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ACCURATELY COLOURED FIGURES

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"The World seems to have discovered that nothing about which Infinite Wisdom has deigned to employ itself can, properly speaking, be unworthy of any of its creatures, how lofty soever their pursuits and pretensions, may be."

SIR J. E. SMITH.

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OF

# THE BOTANIST.

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## THE DICTIONARY,

**A portion of which is given with each Number of the BOTANIST, as published monthly, forms a separate Volume.**

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## THE GUIDE,

**A part of which is likewise annexed to each Number, also forms a separate Volume.**

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**Those portions of the above works originally annexed to the Numbers comprised in this Volume of the BOTANIST will be delivered with it to the purchaser.**

Mrs Withers del.

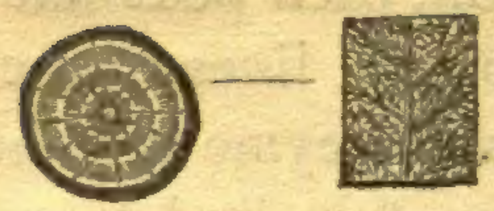
*Gesnera rupestris.*

Neill sc.

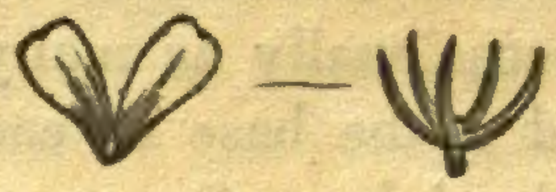
# GESNE'RA RUPES'TRIS.

## ROCKY GESNERA.

EXOGENÆ, OR DICOTYLEDONEÆ.



{ Natural division to which this Plant belongs. }



## NATURAL ORDER, GESNERIACEÆ.

CALYCIFLORÆ, OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }

DIDYNAMIA, ANGIOSPERMIA, OF LINNEUS.

No. 91.

GENUS. GESNERA. *LINNEUS.* CALYX ovario leviter adnatus, limbo subinæqualiter quinquepartito. COROLLA tubulosa, ima basi quinquegibbosa, limbo subbilabiato, labio superiore emarginato bilobo, inferiore trilobo. STAMINA quatuor didynama, cum quinti postici rudimento. ANTHERÆ primum in hemisphærium cohærentes. GLANDULÆ quinque aut pauciores circa ovarium. CAPSULA sicca unilocularis incomplete bivalvis, placentis duabus parietalibus polyspermis. SEMINA scrotiformia. HERBÆ ope tuberum solidorum perennantes molles. FOLIA opposita vel verticillata crassiuscula. FLORES in cymulas oppositas thyrsum terminalem constituentes dispositi, pulchre coccinei, miniati aut purpurascentes, rarius virides. *MARTIUS*: Nova Genera et Species Plantarum, v. 3, p. 27.

SPECIES. GESNERA RUPESTRIS. *GRAHAM.* RADICE tuberosa subrotunda, caulibus perbrevibus tuberiformibus, foliis subradicalibus late ovatis subpeltatis crenatis subtus glanduloso-puberulis, pedunculis erectis uni vel plurifloris, corollæ tubo paululum curvato, limbo quadrifido patente lacinia superiore latiore bifida, glandulis hypogynis posticis binis.

CHARACTER OF THE GENUS, GESNERA. CALYX slightly adhering to the ovary, the limb unequally five-cleft. COROLLA tubular, with five small protuberances at the base, the limb somewhat two-lipped the upper one emarginate or two-cleft, the lower one of three divisions. STAMENS four didynamous, with the rudiment of the fifth upper one. ANTHERS at first cohering in a hemisphere. Five or fewer glands round the ovarium. CAPSULE dry, one-celled, imperfectly two-valved, with two parietal many-seeded placentæ. SEEDS pouch-shaped.

DESCRIPTION OF THE SPECIES, GESNERA RUPESTRIS. ROOT consisting of a large somewhat flattened tube, from which proceed a few short fibres. STEM apparently none, being in fact reduced to a very short prolongation of the tuber of the root, upon which are placed the leaves and peduncles. LEAVES usually two only, opposite. FOOTSTALK about an inch long, downy; limb of the leaf, varying from three or four to six or eight inches long and from three to six broad, ovate, slightly peltate, the footstalk being inserted from a quarter to half an inch within the margin, crenately toothed, rather thick, bullate, and convex, dark and nearly glabrous above, paler below with a scattered

glandular pubescence, much thicker on the midrib and veins. PEDUNCLES numerous, erect, two to three inches long, simple or more frequently branched in the same manner as the cymes of other Gesneras, but in a vertical instead of a horizontal direction, each peduncle bearing occasionally as many as eight or ten flowers, linear bracts are placed at the base of each pedicel and the whole cyme is pubescent and glandular. CALYX pubescent, the divisions of the limb lanceolate, acuminate, equal in length to the tube. COROLLA in well-flowered specimens an inch and a half in length, slightly curved, glabrous, of a rich red. LIMB of four broad rounded spreading divisions of which the upper one is broader and more or less deeply divided into two. STAMENS four, inserted in the base of the tube, filaments filiform of the length of the tube. ANTHERS yellow, cohering together. Fifth rudimentary stamen, very short and filiform. Two glands at the base of the ovary on the upper side. OVARY pubescent. STYLE glabrous.

POPULAR AND GEOGRAPHICAL NOTICE. The genus Gesnera is diffused over the whole of the warmer portion of America and extends northward to the Tierra Caliente as far as Mexico, and southward to the southern extremity of Brazil, containing a large number of species, many of which are already in cultivation, bearing a conspicuous share in the ornament of our stoves. Amongst these, few are likely to be more sought after than the present one, whether for its singularity, or for its great beauty, when well-flowered so as to give it a rich colour and large sized corolla. It is a native of the southern provinces of Brazil. G. B.

INTRODUCTION; WHERE GROWN; CULTURE. This plant was first raised some years since in the very rich and well-managed Botanical Garden at Berlin, amongst other plants received from one of their collectors in Brazil. It was transmitted from thence to the Edinburgh Botanic Garden, in 1834, under the name of Gesnera rupestris of Martius and was still grown under that name when we were at Berlin, in 1836. We cannot however find any such species published by Martius. It is certainly not the Gesnera rupicola, nor has it the leaves, nor precisely the flowers of Gesnera tuberosa, although it much resembles it. From the Edinburgh Botanic Garden it has been liberally distributed, and the fine specimen here figured was grown in the nursery of Messrs. Rollisson of Tooting. It flowers very freely as a stove plant under the same treatment as the other Gesneras.

### DERIVATION OF THE NAMES.

GESNERA named by Linneus in honour of Conrad Gesner, a distinguished botanist of the sixteenth century. RUPESTRIS growing in rocks.

### SYNONYMES.

GESNERA RUPESTRIS. Graham, in Edinburgh Philosophical Journal, December, 1837.

GESNERA TUBEROSA. Hooker, Botanical Magazine, t. 3664, not of Martius.

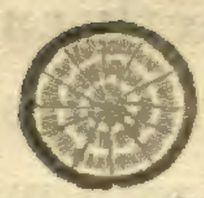
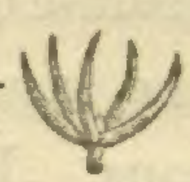
*Helichrysum macranthum.*

Mrs Withers del.

Smith &

# HELICHRY'SUM MACRAN'THUM.

## LARGE-FLOWERED HELICHRYSUM.

EXOGENÆ.  { Natural division to which this Plant belongs. }  DICOTYLEDONEÆ.

NATURAL ORDER COMPOSITÆ.

CALYCIFLORÆ, OF DECANDOLLE. { Artificial divisions to which this Plant belongs. } SYNGENESIA, POLYGAMIA, OF LINNEUS.

No. 92.

GENUS. HELICHRYSUM. *VAILLANT.* CAPITULUM multiflorum, nunc homogamum floribus omnibus tubulosis hermaphroditis quinqnedentatis, nunc heterogamum floribus radii uniseriatis sæpe paucissimis fœmineis gracilibus. INVOLUCRUM imbricatum, squamis scariosis, interioribus conniventibus aut radiantibus. RECEPTACULUM planum epaleaceum, nunc nudum aut areolatum, nunc fimbrilliferum. ACHÆNIA erostria, sessilia areola, terminali. PAPPUS uniserialis, setis subscabris (nec plumosis) nunc liberis, nunc æqualiter basi subconcretis, nunc inæqualiter subcoadunatis seu ramosis. HERBÆ aut suffrutices. FOLIA alterna. INVOLUCRA alba, purpurea aut flava. COROLLÆ luteæ aut purpureæ. *DECANDOLLE*: Prodromus, v. 6, p. 169.

SPECIES. HELICHRYSUM MACRANTHUM. *BENTHAM.* HERBACEUM, erectum, caule subsimplici vel parce ramoso, ramis scabris apice monocephalis, foliis oblongo-lanceolatis obtusis basi in petiolum angustatis et amplexicauli-dilatatis utrinque viridibus scabris, capitulo magno, involucro albo extus subroseo squamis intermediis radiantibus ovatis obtusis mucronulatis, receptaculo nudo, pappo scabro.

CHARACTER OF THE GENUS, HELICHRYSUM. HEAD of flowers many-flowered, sometimes homogamous, with all the florets tubular, hermaphrodite and five-toothed, sometimes heterogamous, the florets of the ray in one row, often but very few, slender and female. INVOLUCRE imbricate, the scales scariose, the interior ones sometimes connivent, sometimes radiating. RECEPTACLE flat without paleæ, either quite naked or with alveolæ or little hairs. ACHÆNIUM not beaked, sessile, with the point of attachment terminal. HAIRS of the pappus in one row, rough but not feathered, sometimes free, sometimes connected equally at the base, or unequally joined or branched.

DESCRIPTION OF THE SPECIES HELICHRYSUM MACRANTHUM. STEM herbaceous, erect, or ascending and branched at the base, branches simple or trifid, rough but neither hairy nor cottony. LEAVES oblong-lanceolate, or the lower ones spathulate, obtuse, quite entire, contracted at the base into a short petiole which is dilated as it embraces the stem, green and rough on both sides but not woolly. HEAD

of flowers large, being about two inches and a half in diameter including the scales. SCALES of the involucre scariose, white, tinged with pink on the outside one, the outer ones short and nearly orbicular, the intermediate ovate, obtuse, with a short point spreading nearly an inch long, the inner ones shorter, narrower, and sharper. FLORETS very numerous. RECEPTACLE naked. PAPPUS white, rough with minute teeth.

POPULAR AND GEOGRAPHICAL NOTICE. This is a handsome addition to a genus well known for the beauty and duration of the flowers of most of its species, which on that account have received in many languages the name of "Immortal" and are so much used for the decoration of tombs and monuments, on anniversary occasions, especially by Roman Catholics. The species are very numerous; De Candolle enumerates 212, beides 26 Heliptera, which are only separated by a purely artificial character. They are mostly inhabitants of the Cape of Good Hope colony, and of extra-tropical Australia. A few are natives of Madagascar and tropical Asia and Africa, and about twenty-five grow in the northern hemisphere of the old world, chiefly in the Mediterranean and Armenian regions. None have as yet been found in any part of America. G. B.

INTRODUCTION; WHERE GROWN; CULTURE. The Helichrysum macranthum was first introduced by Baron Charles von Hügel, who brought with him to Vienna dried specimens, from a detailed examination of which the above description was taken. He had also sent home seeds, which were raised in his garden at Hietzing; and from thence plants were obtained by the Messrs. Rollisson of Tooting, in whose nursery our drawing was made. We are sure that the admirers of beautiful plants will feel grateful to these spirited individuals for their attention to the introduction amongst us of new and interesting plants, like that before us. The principal care demanded in its cultivation is the avoidance of over watering. It should be potted in sandy peat, well-drained, and kept in the greenhouse.

### DERIVATION OF THE NAMES.

HELICHRYSUM, so named because it was supposed to be the ἑλίχρυσος Helichrysus, or rather ἑλειὸχρυσος, Heleiochrysos (i. e. marsh-gold or golden flower of the marshes) of Dioscorides; the Mediterranean species, however, especially the very golden one, Helichrysum stæchas, are universally found in dry sandy or rocky places, which is strong evidence that Dioscorides had some other plant in view. MACRANTHUM, large-flowered, from the size of the head of flowers.

### SYNONYMES.

HELICHRYSUM MACRANTHUM. Bentham, in Hügel's Enumeratio, p. 65. Decandolle: Prodromus, vol. 6, p. 189.

*Lobelia ramosa.*

# LOBE'LIA RAMO'SA.

## BRANCHING LOBELIA.

EXOGENÆ, OR { Natural division to which this Plant belongs. } DICOTYLEDONEÆ.

## NATURAL ORDER, LOBELIACEÆ.

CALYCIFLORÆ, OF DECANDOLLE. { Artificial divisions to which this Plant belongs. } PENTANDRIA, MONOGYNIA, OF LINNEUS.

## No. 93.

GENUS. Lobelia. *Linneus.* Calycis tubus obconicus, turbinatus, oblongus; aut hemisphæricus, limbus quinquepartitus. Corolla tubulosa, tubo recto dorso longitudinaliter fisso, limbo quinquepartito bilabiato subbilabiato aut demum unilabiato, labio inferiore trilobo pendulo, laciniis duabus superioribus erectis aut cum labio conniventibus. Antheræ apice omnes aut saltem duæ inferiores barbatæ. Stigma bilobum, lobis demum exsertis divaricatis orbiculatis subtus annulo pilorum collectorum cinctis. Capsula calycis tubo conformis bilocularis apice loculicido-bivalvis, valvis ultra calycis tubum productis. Semina creberrima, minuta. *Presl:* Prodromus Monographiæ Lobeliacearum, p. 11, sub Rapuntis.

SPECIES. Lobelia ramosa. *Bentham.* Caule ramoso subtereti pubescente, foliis inferioribus pinnatisectis segmentis foliisque supremis linearibus lanceolatisve subdentatis, ramulis pedunculiformibus unifloris subracemosis, corollæ labii inferioris lacinia intermedia latissima vix emarginata, lateralibus dimidiatis, antheris omnibus barbatis, capsula obliqua hinc demum gibbosa.

Character of the Genus, Lobelia. Tube of the calyx obconical, turbinate, oblong or hemispherical, limb four-cleft. Corolla tubular, the tube split longitudinally on the upper side, the limb five-cleft, the divisions more or less arranged in two lips, or at length spread out into one, the lower lip hanging with three divisions, the two upper divisions sometimes erect, sometimes joined to the lower. Anthers all or at least two of them bearded at the top. Stigma two-lobed, the divisions at length exserted, spreading, orbicular, and surrounded at the base by a ring of collected hairs. Capsule filling up the tube of the calyx and of the same shape, bilocular, opening in two valves at the apex across the dissepiment, the valves prominent beyond the tube of the calyx. Seeds minute, very numerous.

Description of the Species, Lobelia ramosa. A much branched perennial, growing to the heighth of two or three feet, with slender, erect, or spreading branches, cylindrical or slightly angular, more or less covered with short patent or reflexed hairs. Lower leaves deeply divided into lanceolate or linear segments which have themselves often two or three deep teeth or lobes, upper leaves nearly entire or quite so, all of them green on both sides, with short scattered hairs,

Flowering branches resembling peduncles, but bearing two or three small leaves, placed in the upper axillæ, three to four or more inches long, and bearing one flower at their extremity, the upper ones shorter, less leafy, and forming a very loose raceme at the end of the branches. Calyx cylindrical and nearly straight at the time of flowering, but at the maturity of the seed it becomes almost as oblique as in Lobelia gibbosa, it is slightly downy, ten-nerved, the divisions of the limb about the length of the tube when in flower. Corolla of a rich blue, two-lipped, the middle division of the lower lip broader than long, usually slightly emarginate with a small point, lateral divisions very oblique, semi-ovate, the upper lip of two very small erect divisions. All the anthers bearded. Capsule obliquely turbinate.

Popular and Geographical Notice. This, by far the most elegant of the herbaceous Lobelias in cultivation, is said to have been found in various parts of Southern Australia, but the only wild specimens we have seen, were gathered by Baron Charles von Hügel, in the neighbourhood of the Swan River. We had at first considered them as belonging to the Lobelia tenuior of Brown, notwithstanding that the latter was described from specimens from tropical Australia. An examination however, of more advanced specimens, shows some decided differences in the form of the capsules from that described by Brown, as well as the taller stature and more divided leaves. On the other hand, the Lobelia heterophylla of Labillardière, to which this has been referred, is a very different species both in habit and foliage, and there appears little doubt that the present one is entirely new. It appears to be confined to South Western Australia, for the specimens received from Van Diemen's Land, and figured in the Botanical Register, t. 2014 are probably the true Lobelia heterophylla or some other allied species, of which there are several in various parts of Australia. G. B.

Introduction; Where grown; Culture. Our drawing was made in the Garden of the Horticultural Society of London, where the specimens were raised from seeds received from Swan River by Captain Mangles, and presented by him to the Society. It remains in flower in great beauty for several months, and grows very freely, either singly or in beds; requiring only winter protection from frost. It continues to flower a long time after being gathered and placed in a room.

### Derivation of the Names.

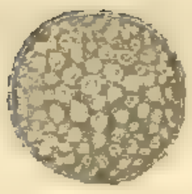
**Lobelia**, in honour of Matthew Lobel, Physician and Botanist to James I. and author of several Works. **Ramosa**, branched, from the habit of the plant, in contradistinction to the nearly simple stem of Lobelia heterophylla.

*Odontoon longitruncatum*

# CHLORÆ'A LONGIBRACTEA'TA.

## LONG-BRACTED CHLORÆA.

ENDOGENÆ, OR MONOCOTYLEDONEÆ.



{ Natural division to which this plant belongs. }

## NATURAL ORDER, ORCHIDACEÆ.

GYNANDROSÆ. OF LINDLEY.

{ Artificial divisions to which this Plant belongs. }

GYNANDRIA, MONANDRIA, OF LINNEUS.

No. 94.

GENUS. Chloræa. *Lindley:* Perigonii membranacei foliola exteriora subæqualia, lateralia labello supposito, apice incrassata, deflexa, supremum cum interioribus conforme in galeam connivens. Labellum sessile, cucullatum, integrum vel trifidum, disco cristatum, sæpius incrassatum. Columna elongata, semiteres, marginata. Anthera terminalis, loculis incomplete bilocellatis, stigmate in apice columna transverso-incumbens. Pollinia 2, bipartita, postice cohærentia.—Herbæ Chilensis, radicibus fasciculatis, carnosis, grumoso-farinaceis, scapis simplicibus ima basi foliosis, superne bracteis reticulatis vaginatis, foliis oblongis nervosis venosis præcocibus, floribus spicatis magnis, perigonii foliolis membranaceis reticulato-venosis venis intensius coloratis, sæpe nigricantibus. Endlicher: Genera Plantarum. p. 219.

SPECIES. Chloræa longibracteata. *Lindley.* Foliis oblongis obtusis rosulatis, bracteis acuminatis floribus longioribus, sepalis inferioribus adscendentibus apice acuminatis linearibus, labello sessili basi bicalloso, lobis lateralibus planis cristaque depauperatis, medio sinuato linguiformi nudo apice carnoso, columna nana. Lindley, in Brande's Journal, v. 23. p. 48.

Character of the Genus, Chloræa. Perigone membranous, the outer leaflets nearly equal, the lateral placed under the labellum, thickened at the top, deflected, the uppermost of the same form as the interior one, and brought together with them into a galea. Lip sessile, hood-shaped, entire or three-cleft, crested on the disk and often thickened. Colnmna long, semicylindrical, bordered. Anthers terminal, the cells incompletely divided into two, the stigmate lying transversely on the top of the columna. Pollen masses two, each divided into two parts, and cohering at the base.

Description of the Species, Chloræa longibracteata. Stem about a foot high. Leaves oblong, obtuse, somewhat undulated, spreading, reticulately veined with longitudinal ribs. Stem covered with sheathing reticulate acuminate bracts. Flowers in a terminal spike, each one in the axilla of a bract, which in the original wild specimens is longer than the flower itself, but shorter in the one here figured. Divisions of the perigon all ascending, the upper

outer one and the two lateral inner ones equal in size, oval-oblong, acuminate, undulate on the margins, nearly white, the lower ones greenish, likewise oval oblong at the base, but terminated in a long, linear, fleshy, obtuse, dark coloured appendage. LABELLUM nearly parallel with the column, sessile, cordate at the base, of a rich orange colour; lateral lobes short, rounded, middle lobe long, sinuated, fleshy at the end, and veiny along the axis. CREST consisting of a few broken excrescences situated towards the base. COLUMNA much shorter than the labellum, half-round.

POPULAR AND GEOGRAPHICAL NOTICE. The genus Chloræa comprehends about twenty-two species, all natives of the Chilian States, where they are found from the sea coast to the verge of perpetual snow on the Andes. Some few, like a portion of our British Orchises embellish the rich grassy meadows of the valleys, but the greatest number prefer those dry rocky wastes which give to the mountainous districts of Chili so desolate an appearance in summer. Several species of them are known to the inhabitants, under the names of wild tulips, and lilies, and by their great abundance form a striking feature in the summer flora of the country. Although the flowers of the original species are of a greenish colour, which occasioned the adoption of the name Chloræa for the genus, still several of those discovered by Dr. Pöppig have large flowers of a pure white, or of a rich yellow, and are highly ornamental. G. B.

INTRODUCTION; WHERE GROWN; CULTURE. The subject of the present plate, the first of this most interesting genus which has appeared in our gardens, was imported from Valparaiso by Mr. Crook, in 1837; and flowered in the stove of W. J. Myers Esq. at Aighburgh, near Liverpool, to whom, and to Mrs. E. Bury, the lady who has so kindly favoured us with the drawing from which our plate was engraved, we are greatly indebted for this and other interesting novelties. As far as we at present know the requirements of this orchidaceous novelty, it should be kept in the stove; this, however, is not indispensable to all Chilian plants, and on further acquaintance it may be found not to be so to the Chloræa longibracteata. It may be potted in a mixture of loam and peat.

### DERIVATION OF THE NAMES.

CHLORÆA, from χλωρος CHLOROS, green, alluding to the greenish hue in the flowers of several species. LONGIBRACTEATA, with long bracts, that organ being usually longer in these species than in those previously described.

*Salvia patens*

95-108 in vol 2.

# SAL'VIA PA'TENS.

## SPREADING SAGE.

EXOGENÆ, OR DICOTYLEDONEÆ.

{ Natural division to which this Plant belongs. }

NATURAL ORDER, LEGUMINOSÆ.

COROLLIFLORÆ, OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }

DIANDRIA, MONOGYNIA, OF LINNEUS.

No. 109.

GENUS. Salvia. *Linnæus.* Calyx bilabiatus, labio superiore integro vel tridentato inferiore bifido. Corolla bilabiata, labio superiore erecto subintegro concavo, inferiore pendente trilobo. Stamina fertilia duo antica. Antherarum connectivum lineare, transverse cum filamento articulatum, antice ascendens, loculum fertilem adnatum ferens, postice deflexum vel ascendens loculum alterum minorem, vel difformem cassam ferens vel nudum. Stylus apice breviter bifidus, lobis sæpius inæqualibus. Carpella ovoideo-triquetra, sicca, lævia. Herbæ fruticesve habitu variabiles. Florum verticillastri in racemis terminalibus dispositi.

SPECIES. Salvia patens. *Cavanilles.* Caule herbaceo erecto piloso, foliis petiolatis ovato-deltoideis crenatis basi hastatis vel supremis rotundatis utrinque hispidis, floralibus lanceolato-linearibus, verticillastris bifloris remotis, calycibus campanulatis villosis, labio superiore brevissime tricuspidato, inferioris laciniis acuminatis, corolla ampla, fauce hiante, labio superiore erecto-falcato integro, inferiore dependente lobis lateralibus oblongis reflexis, intermedio latissimo emarginato.

Character of the Genus, Salvia. Calyx two-lipped, the upper lip entire or minutely 3-toothed, the lower one two-cleft. Corolla two-lipped, the upper lip erect, usually entire, more or less concave; the lower one spreading, three-lobed. Stamens two only, fertile, inserted in the lower side of the tube of the corolla. Anthers with a linear connectivum, tranversely fixed on the filament, the outer end ascending with a single adnate fertile cell, the inner end descending or rarely ascending, bearing either a smaller, or a deformed empty cell, or without any. Style shortly cleft at the top, the lobes usually unequal. Carpels egg-shaped, more or less triangular, dry, smooth.

Description of the Species, Salvia patens. Perennial, growing to the height of two or three feet, or rather more. Stem erect, branching, hairy. Leaves petiolate, large, ovate, or deltoid, broadly hastate or somewhat heart-shaped at the base, or the upper ones rounded, green and hairy on both sides. Flowers disposed in terminal racemes, usually branching into three at the base; along this raceme they are placed in opposite pairs, each one at the axilla of a small, linear lanceolate, floral leaf or bract. Flower Stalks short, hairy. Calyx half to three quarters of an inch long, hairy, green,

and deeply divided into two lips, the upper one entire, with three very minute points, the lower deeply two-cleft. Corolla of a rich blue, between two and three inches long, covered with short hairs on the outside, remarkable for its broad gaping mouth; the tube rather longer than the calyx; the upper lip, long, falcate, and erect, inclosing the stamens and pistil, the lower lip hanging with two lateral oblong reflexed lobes, and the middle one large, very broad, and emarginate.

Popular and Geographical Notice. This beautiful species belongs to the same section of this numerous and widely diffused genus, as the greater proportion of American species, and to which on account of the number of handsome ones it contains, the name of Calosphace has been given. The section is characterised not only by the peculiar conformation of the anthers, but also by its Geographical station, the whole of the two hundred or more species being confined to southern or central America, or to the southern and western portions of North America. They there inhabit, chiefly, mountainous districts, and are most abundant along the great chain of the Andes, from the Rocky Mountains to the Chilian states, especially about the mining districts of Mexico, and in upper Peru. The subject of the present plate appears not to be uncommon about the mines of Guanaxuato, Real del Monte, Tlalpuxahua, &c. as it is transmitted from thence in most dried collections. G. B.

Introduction; Where grown; Culture. Although the Salvia patens is said so have been cultivated some years since in the Botanic Garden of Berlin, it certainly never appeared in this country until last summer, (1838) when it was simultaneously raised by Messrs. Lowe, of Clapton, where our drawing was made; Mr. Page of Southampton, and Mr. Pontey of Plymouth; in all cases it would appear from seeds transmitted to this country by John Parkinson, Esq. her Majesty's Consul, at Mexico. It is probably, like Salvia fulgens, half hardy in our southern counties, and requiring the same treatment, but with especial care not to weaken it, or to suffer the raceme to lengthen so as to increase the distance between the flowers.

### Derivation of the Names.

Salvia, the ancient Roman name for the officinal sage, said to have been derived from salvare, to save, on account of the medicinal properties of the plant. Patens, spreading or gaping, in allusion to the flower.

### Synonymes.

Salvia patens. Cavanilles Icones, v. 5, p. 33, t. 454. Bentham: Labiatarum Genera et Species, p. 295. Horticultural Transactions, 2nd Series, v. 2, p. 222, t. 10.

Salvia spectabilis. Humboldt and Kunth: Nova Genera et Species, v. 2, p. 304.

Wm Wilson del.

*Cologania pubescens*

Tuffen West

# COLOGA'NIA PULCHEL'LA.

## PRETTY COLOGANIA.

EXOGENÆ, OR DICOTYLEDONEÆ.

{ Natural division to which this Plant belongs. }

NATURAL ORDER, LEGUMINOSÆ.

CALICIFLORÆ, OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }

DIADELPHIA, DECANDRIA, OF LINNEUS.

No. 110.

GENUS. Cologania. *Kunth.* Calyx tubulosus, basi supra gibbus, quadridentatus, dente supremo lato integro vel breviter bidentato, inferioribus minoribus. Corolla papilionacea. Vexillum late obovatum, exappendiculatum, in unguem complicatum petala inferiora subamplectentem angustatum. Alæ longe unguiculatæ obovato-oblongæ, falcatæ, basi hinc auriculatæ, vexillo breviores, carinæ adhærentes. Carinæ petala longe unguiculata, oblongo falcata, alis breviora, apice cohærentia. Stamina diadelpha, vexillari omnino libero non geniculato, cæteris fere ad apicem in vaginam connatis. Antheræ consimiles. Ovarium stipitatum, lineare, pluri-ovulatum. Stylus brevis, apice incurvus, stigmate terminali obtuso sub-obliquo. Legumen oblongo-lineare, compressum, bivalve, intus isthmis cellulosis subpluriloculare. Semina suborbiculata estrophiolata. Herbæ volubiles vel procumbentes Mexicanæ. Folia pinnatim trifoliolata rarius simplicia. Pedunculi brevissimi. Pedicelli fasciculati, uniflori. Bracteæ et bracteolæ parvæ.

SPECIES. Cologania pulchella. *Humboldt et Kunth.* Volubilis, foliolis tribus ovatis oblongisve mucronatis basi rotundatis cordatisve utrinque strigosis subtus glaucescentibus, calycibus hirtis.

Character of the Genus, Cologania. Calyx tubular, gibbous at the base on the upper side, four-toothed, the upper tooth broad, entire, or minutely two-toothed, the lower ones smaller. Corolla papilionaceous. Standard broadly obovate, not auricled at the base, but contracted into a long claw, somewhat folded over the claws of the other petals. Wings on long claws, obovate-oblong, falcate, auricled at the base on one side, shorter than the vexillum, adhering to the keel. Keel of two petals adhering to the top, on long claws, oblong falcate, shorter than the wings. Stamens diadelphous, the upper one entirely free but not geniculate, the lower ones connected in a sheath nearly to the top. Anthers all similar to each other. Ovary stalked, linear, with several ovules. Style short, incurved at the top, with a terminal, obtuse, and somewhat oblique stigma. Pod oblong linear, compressed, two-valved, slightly divided transversely by a cellular tissue. Seeds rounded, without any caruncle.

Description of the Species, Cologania pulchella. A slender twiner with the habit of a Kennedya. Stems when young, clothed with appressed hairs, nearly smooth when old. Stipules small, linear subulate. Leaves alternate Footstalks from one and a half to two and a half inches long with appressed hairs. Leaflets three, one terminal, and two opposite, from a quarter to half-an-inch below the terminal one, all of them borne on very short partial footstalks, oval oblong, mucronate, rounded or slightly heart-shaped at the base, an inch to an inch and half long, with scattered appressed hairs on both sides, especially on the under side, which is of a pale glaucous hue. Stipellæ very minute. Flowers axillary. Peduncles very short, apparently none during the flowering, but often attaining half an inch or more as the fruit ripens. Pedicels very short, fascicled. Bracts and bracteolæ small, subulate. Calyx five or six lines long, green, hairy; the lateral teeth about half the size of the upper one, the lower ones rather longer, but smaller, than the upper one, each of them terminating in a point. Standard purple with a white spot at the base, about half an inch long and broad, besides the claw which is contained in the calyx. Wings of the same colour as the standard, much narrower and shorter. Keel still smaller, of a pale colour. Pod an inch long or rather more, hairy.

Popular and Geographical Notice. The enormous extent to which recent discoveries have carried the order of Leguminosæ, renders their classification and distribution into tribes and genera a matter of no small difficulty; no order contains, perhaps, a greater number of extensive genera, differing from each other by very slight characters; in none has it been found more essential not only to rely in a great measure on the fruit in the distinction of the genera, but even to call in the aid of the vegetative organs, the leaves, stigmas, and bracts, for the demarkation of the larger groups. Linnæus, indeed, considered the pod to be of little importance, and added, "nec folia pro characteribus unquam assumi debet," but in his days scarcely six hundred Leguminosæ were known, whereas, if all those now published, or lying ready for publication in our large herbaria, were reckoned up, the number would be found not to fall far short of six thousand.

When Decandolle, in the preparation of his Prodromus, arrived at this beautiful order, he was induced to bestow special pains upon it, and with his master mind grasping and digesting all that had till then

appeared on the subject, he gave, in his second volume, a distribution much superior to any that had been proposed; and collecting all the specimens he had access to, he enumerated above 3700 species. Independently of the old characters derived from the flowers, he invariably attached great importance to the pod and seed, whenever known, and made great use of the foliage in many instances. Having also observed the germination of a large number of cultivated species, he introduced into his general characters the differences he had observed in this respect, and even founded on them some of his primary divisions. There is, however, the great inconvenience that these characters can only be ascertained by cultivation; and though in some instances they appear to correspond with very natural groups, yet in others, marked exceptions have been found, and the consequence has been the frequent separation of genera otherwise closely allied. This is especially the case with tropical Leguminosæ, of which but a small proportion was known, even at the time Decandolle wrote, but in most other respects the numerous recent discoveries appear to have confirmed the views of that eminent botanist. One point, at least, is now fully established, the great importance of the pod and seed as compared with the flower and ovarium; and collectors, especially in tropical countries, cannot be too much impressed with the necessity of gathering the pods as nearly ripe as possible, and always accompanying them with branches and leaves, even when the season will not admit of obtaining the flowers also.

The genus Cologania, which forms the subject of the present plate, contains five or six Mexican species, some of them common in that country and known to us for the last fourteen or fifteen years, and yet the pod had not, we believe, till now been observed. It has now been perfected and ripened in our greenhouses, and confirms what had already been presumed as to the affinities of the genus. It is most closely allied to the North American Amphicarpæa, it appears even doubtful whether the Amphicarpæa Pitcheri, recently published in Torrey and Gray's Flora of North America, be not to that degree intermediate between the two as to require the uniting them into one. It is not known whether any Cologania produces the apetalous flowers, so remarkable in Amphicarpæa, but this is a circumstance which happens occasionally in so many Phaseoleæ of different genera as to shew it to be of no importance. Dumasia, an East Indian species,

(from which country there is also a true Amphicarpæa) differs but in very slight characters; Clitoria, their next ally, is rather farther removed, by the bracts, the style, and the general habit. Amphodus of the Botanical Register, which has also been supposed to be very near Cologania, appears to have been founded on a mistake; it is not a West Indian, but an Australian plant, and is, in fact, nothing more than Kenedya rubicunda.

INTRODUCTION; WHERE GROWN; CULTURE. The Cologania pulchella was raised from Mexican seeds, by G. Barker, Esq. of Springfield, Birmingham, and by him presented to the London Horticultural Society, where our drawing was made, last autumn. It is a very pretty greenhouse climber, requiring the same treatment and training as the smaller Australian Kennedieæ, for it does not appear to be of very tall growth.

DERIVATION OF THE NAME.

COLOGANIA, named by Kunth, after the family of Cologan, in Teneriffe.
PULCHELLA, pretty.

SYNONYMES.

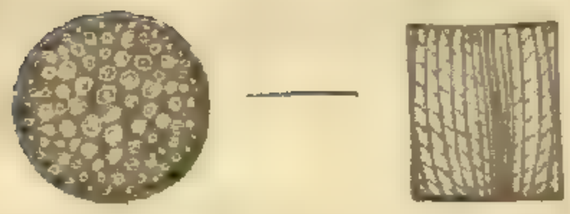
COLOGANIA PULCHELLA. Humboldt and Kunth: Nova Genera et Species, v. 6, p. 413. Decandolle: Prodromus, v. 2, p. 237.

*Zygopetalum maxillare.*

# ZYGOPETALUM MAXILLARE.

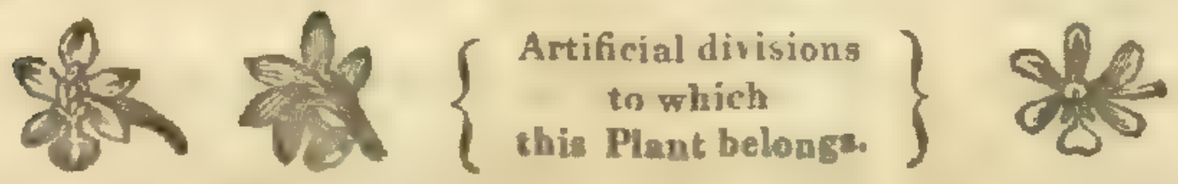
## JAW-SHAPED ZYGOPETALUM.

ENDOGENÆ, OR MONOCOTYLEDONEÆ.




## NATURAL ORDER, ORCHIDACEÆ.

GYNANDROSÆ, OF LINDLEY.




GYNANDRIA, MONANDRIA, OF LINNEUS.

## No. 111.

GENUS. ZYGOPETALUM. *HOOKER.* PERIGONII explanati foliola exteriora etinteriora subæqualia, adscendentia, cum columnæ pede producto connata. LABELLUM muticum, indivisum, patens, ungue adscendente, crista magna tranversa carnosa. COLUMNA brevis, arcuata, semiteres. ANTHERA incomplete bilocularis. POLLINIA duo bipartibilia, in glandula transversa subsessilia. HERBÆ Americanæ tropicæ epigææ, subacaules. FOLIA plicata patentia. FLORES magni, speciosi, labello discolore. *ENDLICHER:* Genera Plantarum, p. 201.

SPECIES. ZYGOPETALUM MAXILLARE. *LODDIGES.* FOLIIS lanceolatis undulatis acuminatis racemo flexuoso longioribus, sepalis petalisque ovato-oblongis acutis, labello obovato callo baseos maximo lunato margine crispa. *LINDLEY:* Genera and Species, p. 188.

CHARACTER OF THE GENUS, ZYGOPETALUM. PERIGON spreading, the outer and inner divisions nearly equal and similar, ascending, connected at the base with each other and with the base of the column. LABELLUM not spurred, undivided, spreading, ascending at the base, with a large transverse fleshy crista. COLUMN short-arched, semicylindrical. ANTHER incompletely bilocular. POLLEN masses two, each divisible into two, nearly sessile on the transverse gland.

DESCRIPTION OF THE SPECIES, ZYGOPETALUM MAXILLARE. A terrestrial plant with a creeping rhizoma, sending forth at intervals fascicles of leaves and very short stems, thickened at the base into an ovate pseudo-bulb. LEAVES about a foot high, lanceolate, acuminate, wavy, and narrowed into a footstalk at the base. FLOWERING STEM usually about 9 inches high, flexuose, bearing 3 or 4 large flowers, forming a loose raceme, each flower in the axilla of a sheathing lanceolate membranaceous bractea. SEPALS or outer divisions of the perigon, ovate, oblong, pointed, green with transverse purple marks, and purplish at the base; inner divisions or petals similar to them, but narrower, especially at the base. LABELLUM large, rounded, very broad, convex, entire, but somewhat waved on the edge, blue with longitudi-

nal streaks of purple, the base or footstalk short, thick, and ascending, with a large crescent-shaped thick crista of a deep purple, and toothed at the edge, so as to give it some appearance of a jaw. COLUMN thick, fleshy, purple, somewhat arched over the hollow of the crista. ANTHER yellow. G. B.

POPULAR AND GEOGRAPHICAL NOTICE. This is a small genus confined to tropical America, and apparently to Brazil and Guiana, but closely allied to Eulophia, an extensive Asiatic and African genus, which is also terrestrial, but with the pseudo-bulbs and much of the habit of many epiphyte genera.

INTRODUCTION; WHERE GROWN; CULTURE. This species was first introduced by the Messrs. Loddiges of Hackney, who received it in 1829, from Mr. T. Warre of Rio Janeiro, and first flowered it in August, 1831. From their collection, where our drawing was made, it has since spread into others. It requires being planted in a light but roughly divided peat soil, mixed with small drainers. It may be occasionally increased by separating the roots, and whenever this is required, it will be found advantageous to cut the pseudo-bulbs assunder a month before the roots are finally separated; and when re-potted, the crown of the roots should be kept higher than the rim of the pot. To flower well it requires, like most others of this interesting order, to be left in large tufts.

### DERIVATION OF THE NAMES.

ZYGOPETALUM, from ζυγος a yoke, and πεταλον, a leaf or petal, in allusion to the connection of the divisons of the perigon. MAXILLARE, like a jaw, in allusion to the crista.

### SYNONYMES.

ZYGOPETALUM MAXILLARE. Loddiges: Botanical Cabinet, t. 1776. Lindley: Genera and Species, p. 188.

*Pandiya macrocarpa*

# PERNET'TIA MUCRONA'TA.

## POINTED-LEAVED PERNETTIA.

EXOGENÆ. OR DICOTYLEDONEÆ.

{ Natural division to which this Plant belongs. }

NATURAL ORDER, ERICACEÆ.

CALYCIFLORÆ, OF DECANDOLLE.

{ Artificial divisions. to which this Plant belongs. }

DECANDRIA, MONOGYNIA, OF LINNEUS.

## No. 112.

GENUS. PERNETTIA. *GAUDICHAUD*. CALYX 5-partitus siccus. COROLLA globosa, limbo 5-dentato. STAMINA 10, hypogyna; filamentis basi dilatatis, antheris muticis: lobis apice angustatis bidentatis. OVARIUM 5-loculare, polyspermum; squamis 10 hypogynis ambientibus. CAPSULA baccata, polysperma. *GAUDICHAUD* in Annales des Sciences Naturelles, Vol. V, p. 102.

SPECIES. PERNETTIA MUCRONATA. *GAUDICHAUD*. FOLIIS ovatis serratis mucronatis, pedunculis laxis brevioribus, squamis hypogynis integris. *GAUDICHAUD*: Ibid.

CHARACTER OF THE GENUS, PERNETTIA. CALYX 5-parted, dry. COROLLA globose, limb 5-toothed. STAMENS 10, hypogynous; filaments dilated at the base, anthers not pointed behind; lobes contracted, two-toothed at the apex. OVARY 5-celled, many-seeded; 10 hypogynous scales surrounding it. CAPSULE berried, many-seeded.

DESCRIPTION OF THE SPECIES, PERNETTIA MUCRONATA. A small shrub, dividing into branches, close to the root; branches spreading, terete; the older branches covered with a brown cracked bark, the younger with a smooth reddish bark, with red glands giving origin to a few hairs, which are flexuose and subulate, at first white but speedily becoming yellow. LEAVES about three quarters of an inch in length, scarcely petiolate, sparse, inclined towards the light, flat, shining, naked, dark green above, paler beneath, leathery; mid-ribs distinct; veins on young leaves obscure, more perceptible on the old, ovato-lanceolate, broadly serrrate, the point forming a stiff prolongation of the mid-rib. FLOWERS axillary, solitary, nodding; peduncles about equal in length to the leaves, of a pale green colour, except where covered with a reddish somewhat glandular pubescence; near the base of each peduncle are several scattered, adpressed, ovate bracts CALYX naked, white, 5-parted, segments bluntish. COROLLA white, urceolate, 5-toothed, segments blunt, reflected. STAMENS ten, filaments clavate, rather rough, white; anthers adnate to the tapering summit of the filament, erect, brown, attenuated at the top, each lobe dehiscing by a pore at the apex, and crowned by two short erect bristles. PISTILLUM not protruding, but reaching the reflexed mouth of the corolla. STIGMA formed of five erect points. STYLE erect, cylindrical, of a faint yellowish green. OVARY as long as the stamens, globose, smooth, green.

R. D.

Popular and Geographical Notice. This plant is a native of the countries bordering on the Straits of Magellan, and also of Staten Island. We bring it before our readers less on account of its appearance, which, however, is sufficient to recommend it to notice, than from the circumstances under which our specimen grew. It was reared in one of the plant cases of N. B. Ward, Esq. Wellclose-Square, London, and flowered in June, 1838. Many may have heard of the method of growing plants adopted by this gentleman, but as it is at once interesting as regards the physiology of plants, and important as regards their transmission from one part of the world to another, and their subsequent cultivation, we here introduce some account of it, partly from the letter of Mr. Ward, addressed to Sir W. J. Hooker, and published in the "Companion to the Botanical Magazine," vol. i. p. 317, and partly from our own observation; having been furnished by Mr. Ward, not only with an opportunity of having the drawing made, but also most politely with every facility of judging of his plan in full operation.

The structure of the cases varies slightly, according as they are intended for ornament in a house, or for the transmission of plants by sea. The glass, in those intended for voyages, must be covered with a wire grating to protect it, as any fracture would be destructive to the plants within; and it should be lashed to the poop of the vessel, exposed to the light, and not interfered with during the voyage. In this way Messrs. Loddiges have sent out, or received, not fewer than 200 cases, and generally with complete success.

For ornamental purposes in houses, the cases should be constructed as follows. A frame or pedestal with casters is to be made, nearly the width of the window where it is intended to be placed, and so high that the portion of the case consisting of glass shall be on a level with the window, so as to ensure the free exposure of the plants to the light. A case formed of wood is then to be placed on the support or pedestal. This wooden case may be about a foot and a half deep, and of similar width. It must be coated internally with pitch, or any cement which will keep the humid earth from being in contact with the wood. A hole is to be retained in the under side of the box, perforating both the pitch and the wood. This box is to receive the mould, which, after the plants are planted therein, is to be saturated with moisture, and the superfluous portion allowed to drain off by the hole just mentioned, which is afterwards to be closed with a wooden moveable peg. The wooden portion of the case is to be surmounted, to the height of two or three feet, with a frame-work of bronze to receive the glass, and the form of the upper part is to be similar to the roof of a house, the central beam of bronze having a number of hooks attached to it, by which succulent plants, such as *cacti*, may be suspended, with or without pots. There is a small door of glass on the side remote from the window, through which

the plants are introduced, The closer this door fits, and the fewer times it is opened, the more successful will be the result. It neither is, nor is intended to be, perfectly air-tight; the whole being glazed as a greenhouse. That glass answers best which is termed flatted crown glass. The plants which require much humidity are to be planted in the soil of the box, those which need less may be suspended, in pots containing sand, from the roof of the case. Plants which vegetate in very warm climates, and exogenous plants generally, should be placed at a window facing the south. Ferns, and similar plants, do well enough before one with a northern exposure.

The prime causes of the difficulty of growing plants in large cities are the excessive evaporation to which they are subjected in pots, and the deleterious effects which the products of combustion, disseminated in the atmosphere, produce upon them. But by this ingenious plan these obstacles are removed, and plants have grown in some of Mr. Ward's cases, flowered and ripened fruit, without receiving a fresh supply of water for several years. Its utility, in facilitating the transmission of plants from remote regions, has been abundantly proved, and its value becomes obvious when the difficulties formerly experienced are considered. The beneficial results likely to follow a more extended adoption of this plan cannot be estimated at present, but even already the number of new plants thus introduced into our stoves testify its importance. Nor is it possible to estimate too highly the effects which it will have in increasing the pleasures and enjoyments of the inhabitants of towns, by enabling them to adorn their rooms with the most beautiful and tender plants. It is not necessary to build a fine or expensive case, such as that above described, to carry it into practice: a large wide-mouthed bottle, with a proper quantity of moist earth, closed with a portion of bladder or thin india-rubber, will answer well, and in such have we seen a beautiful specimen of Chorozema cordatum growing, in Mr. Ward's house. Thus the poorest as well as the wealthiest denizens of our cities may gratify their taste for flowers, and have their care repaid more thoroughly than it ever was before. Cowper, who 'mid a faithless generation was found faithful to the love of nature, has observed that the relish for the beautiful works of the Creator

> ———Is a flame that dies not even there,
> Where nothing feeds it: neither business, crowds,
> Nor habits of luxurious city-life,
> Whatever else they smother of true worth
> In human bosoms; quench it or abate.
> Even in the stifling bosom of the town
> A garden, in which nothing thrives, has charms
> That soothe the rich possessor; much consoled,

That here and there some sprigs of mournful mint,
Of night-shade, or valerian, grace the wall
He cultivates. These serve him with a hint
That nature lives; that sight-refreshing green
Is still the livery she delights to wear,
Though sickly samples of the exuberant whole.
What are the casements lined with creeping herbs,
The prouder sashes fronted with a range
Of orange, myrtle, or the fragrant weed,
The Frenchman's darling? Are they not all proofs
That man, immured in cities, still retains
This inborn, inextinguishable thirst
Of rural scenes, compensating his loss
By supplemental shifts, the best he may?
The most unfurnished with the means of life,
And they that never pass their brick-wall bounds
To range the fields, and treat their lungs with air,
Yet feel the burning instinct: over-head
Suspend their crazy boxes, planted thick,
And duly watered. There the pitcher stands,
A fragment, and the spoutless teapot, there;
Sad witnesses how close-pent man regrets
The country, with what ardour he contrives
A peep at nature, when he can no more.

COWPER'S TASK, BOOK IV.

Thanks to Mr. Ward, these sorry contrivances are quite superseded, and by his more elegant mode he may be truly said to have so far brought back the golden age, that he has succeeded in giving the year "eternal spring."

A similar plan was adopted about ten years ago, by A. A, Maconochie, Esq. Advocate, Edinburgh, and with the same happy results. He, however, merely showed it to his friends; and to Mr. Ward, therefore, is due the praise of rendering the benefit a public one.

Seeing, as we do, the importance of this method of treating plants, and being desirous of extending the benefits and the gratifications derivable therefrom, some further account shall be given in the AUCTARIUM of the BOTANIC GARDEN, where descriptive cuts can appropriately be introduced.

### DERIVATION OF THE NAMES.

PERNETTIA, in compliment to Dom Pernetty, the author of the account of a voyage to the Falkland Islands, a work remarkable for its interest, as well as for its uniform exactness. MUCRONATA, from Mucro, a point, the pointed character of the leaves.

### SYNONYMES.

ARBUTUS MUCRONATA, Linneus, fil. supp. 239. Forster: Comment. Goetling, 9, p. 31. Lamarck: Illust. t. 366, f. 2. Willd: Sp, Pl. v. 2, p. 619. Sprengel Syst. Veg. 2, p. 287. Botanical Magazine, 3093.

PERNETTIA MUCRONATA. Botanical Register, 1565.

Bignonia venusta.

# BIGNO'NIA VENUS'TA.

## LOVELY BIGNONIA.

EXOGENÆ. { Natural division to which this Plant belongs. } OR DICOTYLEDONEÆ.

## NATURAL ORDER, BIGNONIACEÆ.

COROLLIFLORÆ, OF DECANDOLLE. { Artificial divisions to which this Plant belongs. } DIDYNAMIA, ANGIOSPERMIA, OF LINNEUS.

No. 113.

GENUS. Bignonia. *Linnæus.* Calyx campanulatus, quinquedentatus aut rarius integerrimus. Corolla tubo brevi, fauce campanulata, limbo quinquelobo bilabiato. Stamina quatuor, didynama, cum rudimento quinti. Stigma bilamellatum. Capsula siliquæformis, bilocularis, dissepimento valvis parallelo. Semina biseriata, imbricata, membranaceo-alata, transversa. Arbores aut frutices sæpissime scandentes et cirrhosi. Folia opposita, simplicia aut composita. Flores axillares aut terminales, sæpius paniculati.

SPECIES. Bignonia venusta. *Ker.* Scandens, glabra, ramis striatis, foliis inferioribus ternatis ecirrhosis, superioribus conjugatis cirrhosis, foliolis ovatis oblongisve acuminatis, petiolis minute puberulis, corymbis terminalibus densis, calyce brevi campanulato truncato minute quinquedentato, corollis elongatis incurvis apice minute puberulis.

Character of the Genus, Bignonia. Calyx bell-shaped, five-toothed, or rarely entire. Corolla with a short tube, the throat bell-shaped, the limb five-lobed, two lipped. Stamens four, didynamous, with the rudiment of a fifth. Stigma bilamellate. Capsule siliqua-shaped, two-celled, the dissepiment parallel to the valves. Seeds in two rows, imbricate, winged.

Description of the Species, Bignonia venusta, Stem climbing, tall, perfectly smooth, as well as every other part of the plant, excepting the slight down on the corolla. Branches marked with six, or more usually eight striæ. Leaves opposite, petiolate, compound, the lower ones bearing three leaflets, the upper ones two leaflets and a long tendril, either simple or two or three branched. Leaflets borne on a partial footstalk, ovate or somewhat oblong, terminating in a blunt point, often slightly heart-shaped at the base, from two to four inches long, shining on the upper surface, and marked with a few scattered incurved glandular dots. Flowers at the end of the branches, or sometimes by the shortness of the branches apparently axillary, in thick bunches formed of a number of short, opposite, five to seven-flowered dichotomous cymes. Calyx bell-shaped, loose,

green, smooth, a quarter of an inch long, truncate, with the border slightly pubescent, and bearing five minute teeth. COROLLA of a rich vermillion, full two and a half inches long, slightly incurved the tube considerably longer than the calyx, then gradually swelling into a broad oblong throat, the limb oblique, two-lipped, the upper lip shortly two-cleft, the lower divided to the base, all the lobes oblong, obtuse, rolled back, and slightly downy at the margins and on the back, the tube is also very hairy inside at the part where the stamens are inserted. STAMENS exserted, but shorter than the lobes of the corolla, smooth, the fifth sterile stamen very small and rudimentary. OVARY very short, linear, terete, placed on a thick, glandular disk. CAPSULE only known by the coarse figure in the Flora Fluminensis, where it is represented as oblong linear, marked on each side with three ribs.

POPULAR AND GEOGRAPHICAL NOTICE. The Bignoniaceæ, like all tropical orders, have only very lately been known to botanists to any considerable extent, and even now, as respects their systematic arrangement, they are in a state of great confusion, which, it is to be hoped, will at length be cleared up by De Candolle in the Prodromus, and in the special Monograph he is preparing. In a short historic review, published in the Bibliothèque de Geneve, that distinguished botanist states the number of species, now more or less known, to be 357, of which Linneus was cognizant of eighteen only. Of the above number 300 are American, 21 African, 30 Asiatic, and 6 in the Archipelago, called by French geographers, Oceania. It is probable that these proportions would be slightly modified, were the vegetation of tropical Africa better known; but still America, and especially Brazil, will be found to produce by far the greatest number of species. It is also of that country that the species here figured is a native.

This order is one of the strongest instances of the importance, for botanical purposes, of collecting the fruit as well as the flower. Of nearly one half of the known species the pod has not yet been observed, notwithstanding it is upon this organ that it is found necessary to lay the basis of the generic distribution, it being almost the only one capable of giving solid characters which harmonize with the general habit of the plants. The very first division adopted by De Candolle, rests entirely on the dehiscence or indehiscence of the fruit; the seeds in the former case, being surrounded by a membranous wing, whilst in the latter they are without any. These winged seeds are usually con-

sidered as the essential and exclusive character of Bignoniaceæ, but it is now ascertained, that whilst they are not uncommon in adjoining orders, there are many true Bignoniaceæ with indehiscent fruit, and, as a natural consequence, wingless seeds; for this is adduced by De Candolle, as another instance of that admirable co-ordination and co-relation of organs, so much observed in the animal kingdom. Membranous wings destined to facilitate the dispersion of seeds through the air, would be totally useless in fruits which do not open of themthemselves, and whose seeds only come out by the soaking and rotting away of the pod, or germinate within it. Amongst the tall growing climbers of tropical America, few can compete in point of beauty with this numerous tribe of which the present species affords a fair specimen, and it is to be hoped now that so many of our more wealthy horticulturists are constructing hothouses on an extensive scale, that they will not disdain to follow the example shown in some continental, especially German, gardens, in the great use there made of the larger climbers for the tasteful decoration of the interior of their houses. The new palm house at Potsdam, for instance, although but little pains has been bestowed on its external architectural decoration, is yet far beyond anything we possess in its internal arrangement; and this is not entirely owing to the size of the specimens of palms it contains, but, perhaps, yet more to the graceful manner in which the Passifloras and other climbers hang in festoons from the roof, whilst their unsightly stems, often the only part visible in our houses, are concealed by the foliage of the other plants. So also the beauty of the Palms themselves is very much increased by the ferns which are made to conceal the tubs in which they are planted. The same object has been attained at Paris by lowering the tubs into a sort of pit, excavated for the purpose, below the level of the hothouse. In the hothouses of Schœnbrunn less use has, perhaps, been made of climbers, and their collection of palms is small, but they afford a solitary instance, we believe, of another kind of beauty; the plants are grouped, as far as circumstances would allow, according to their natural orders, and in addition to the scientific advantage of this arrangement, it is done with so much taste that the effect to the eye is very much enhanced. Thus, in one of the principal greenhouses, the centre is occupied by a group of Australian Acacias so disposed as to have the appearance of one or two specimens of very unusual size and beauty, and attracting, on that account, universal attention, whilst had they been as usual scattered about amongst a mass of hete-

rogenous plants, scarcely one would have been thought worthy of a glance; and the same effect is invariably produced where the collection contains a considerable number of species or individuals resembling each other. The most splendid, however, of the Schœnbrunn houses is undoubtedly the Aroideous house, as it is called, containing an unique collection of Brazilian Aroideæ, with other tropical Monocotyledonæ; which, in the low hothouses we are often limited to, would give a much better idea of tropical vegetation, than the dwarf and stunted specimens of palms in our small collections. These Aroideæ would also mix admirably with the Orchidaceæ, the cultivation of which is now so much the fashion.

INTRODUCTION; WHERE GROWN; CULTURE. The Bignonia venusta was first introduced about the year 1817, by Lady Liverpool, who received it from Rio Janeiro. It was then expected to prove nearly hardy, but not only was this expectation disappointed, but for many years it was found so very difficult to flower it, that its cultivation was generally abandoned. A few years since, however, the Misses Trevor of Tingrith, near Woburn, succeeded in flowering it in great beauty, and have done so every year since, from November till February. Specimens, exhibited at the Horticultural Society in November, 1835, were accompanied by a paper on the mode of treatment, which was published in the Horticultural Transactions, (2nd Ser. v. 2, p. 122.) Its leading points are these: a perforated board was placed at each of the back corners of the bark bed, to keep up a compost of turfy loam, leaf mould, and peat. A plant being put into each corner the roots soon penetrated the bark bed, where they were encouraged in the growing season by the free use of manured water. When the bark was renewed, a considerable space about the roots of the plants was left undisturbed. Remaining thus eight years, the plants cover a surface of 500 feet, although after flowering they are annually cut back to a single stem of six feet. When young shoots are again produced these strike root very readily with a little bottom heat. In the Horticultural Society's garden, where our drawing was taken, it succeeds equally well under the same treatment

### DERIVATION OF THE NAME.

BIGNONIA, said to be named in honour of the Abbé Bignon, librarian to Louis XIV. of France. VENUSTA handsome,

### SYNONYMES.

BIGNONIA VENUSTA, Botanical Register, t. 249. Botanical Magazine, t. 2050.
BIGNONIA IGNEA. Velloso: Flora Fluminensis, v. 6, t. 13.

*Oxylobium scandens.*

# OXYLO'BIUM SCAN'DENS.

## CLIMBING OXYLOBIUM.

EXOGENÆ, OR DICOTYLEDONEÆ.

{ Natural division to which this Plant belongs. }

NATURAL ORDER, LEGUMINOSÆ.

CALYCIFLORÆ, OF DECANDOLLE.

{ Artificial divisions. to which this Plant belongs. }

DECANDRIA, MONOGYNIA, OF LINNEUS.

No. 114.

GENUS. Oxylobium. *Andrews.* Calyx semi-quinque dus, bilabiatus, labio superiore bifido, inferiore tripartito. Corollæ vexillum alis longius, rotundatum, breviter unguiculatum; alæ oblongæ; carina ovato-oblonga, subrecta, obtusa, alas æquans. Stamina libera, glabra. Ovarium sub-sessile, dense pluriovulatum. Stylus filiformis, incurvus. Legumen ovatum, acutum, sessile, coriaceum vel vix membranaceum, turgidum, uniloculare, valvulis intus lævibus. Semina estrophiolata. Frutices suffruticesve Australasici. Folia verticillata aut sparsa, simplicia, integra, subtus sericea. Stipulæ setaceæ vel nullæ. Inflorescentia racemosa, terminalis vel axillaris. Corollæ luteæ vel croceæ. Ovarium villosissimum. Bentham: Annales des Wiener Museums v. 2, p. 69.

SPECIES. Oxylobium scandens. *Benth.* Caule debili prostrato vel scandente, foliis oppositis planis coriaceis viridibus subtus leviter sericeis, racemis capitatis pedunculatis axillaribus terminalibusque.

Character of the Genus, Oxylobium. Calyx cleft to the middle in five divisions, arranged in two lips, the upper one consisting of two, the lower one of three divisions. Corolla with a vexillum longer than the wings, roundish, on a short claw; wings oblong, keel oval-oblong, nearly straight, blunt, equal in length to the wings. Stamens free, smooth. Ovary nearly sessile, with many ovules placed close together. Style filiform, curved or hooked. Pod oval, pointed, sessile, coriaceous or slightly membranaceous, swollen, one-celled, the valves smooth inside. Seeds without any strophiola.

Description of the Species, Oxylobium scandens. Stem perennial, and woody at the base, long, slender, trailing or climbing, but not twining like the Phaseoleæ; smooth, except the younger branches, which are clothed with a soft silky pubescence. Stipules setaceous. Leaves opposite, borne on very short footstalks, oblong, sharp or blunt at the extremity, but the midrib always terminated in a sharp point, usually hooked, coriaceous, reticulate, the younger ones white and silky underneath, the adult ones nearly smooth. Flowers in short capitate racemes, which are borne on peduncles usually about an inch long, and spring from the summits of the branches, or from the upper axillæ, each flower supported on a short pedicel at the axilla

of a minute bractea, and bearing two small bracteolæ a little below the calyx. Calyx somewhat silky, divided to the middle into five broadly lanceolate acute laciniæ, which are reflexed during the flowering, and of which the two upper ones are rather less deeply separated. Corolla yellow, the vexillum marked at the base with a crimson spot. Ovary and seed-pod, as in the whole of the genus, densely clothed with long silky hairs.

Popular and Geographical Notice. The genus Oxylobium contains, as far as hitherto known, six or seven species from the South Eastern districts of Australia and from Van Dieman's Land, and two from the South Western colonies. They are all readily distinguished from Chorozema by the yellow flowers, and opposite or verticellate leaves, which are always silky underneath. They are not, however, so easily known from Callistachys, the chief distinction consisting in the seeds, which have a strophiola in Callistachys and not in any species of Oxylobium in which they have been examined. The present species, which comes from the neighbourhood of Port Jackson, differs slightly in appearance from those which are most known, chiefly on account of its trailing habit, and it has consequently been its fate to wander through various genera, with none of which it could be made to agree in character. Referred successively to Chorozema, Podolobium, Daviesia, and even Mirbelia, and rejected from each of them, it is to be hoped that it has now permanently fixed itself in Oxylobium. G. B.

Introduction; Where grown; Culture. The Oxylobium scandens was first introduced ten or twelve years ago, and is not unfrequently to be met with in Australian collections under the false name of Mirbelia Baxteri. Our drawing was made in July last, in the Birmingham Horticultural Society's Garden. It is a very showy plant, requiring an airy situation in the greenhouse, near the glass. Its soil should be sandy peat with a little loam; and at each repotting its old ball of soil should be raised a littte higher above the top of the pot, to keep the stem from receiving too much moisture. It may be propagated from layers or cuttings, but the best plants are those raised from seeds.

### Derivation of the Names.

Oxylobium from *οξυς*, sharp or pointed, and *λοβος* a pod. Scandens climbing.

### Synonymes.

Chorozema scandens. Smith: Linnean Transactions, v. 9, p. 253.
Podolobium scandens. Decandolle: Prodromus, v. 2, p. 103.
Daviesia umbellata and humifusa. Sieber.
Podolobium humifusum. G. Don: Gardener's Dictionary, v. 2, p. 116.
Mirbelia Baxteri. Botanical Register, t. 1434.
Chorozema Baxteri. Graham: Edinburgh Philosophical Journal, 1831.
Oxylobium scandens. Bentham: Annales des Wiener Museums, v. 2, p. 70.

M^r Wickes del.

*Lantana Sellowiana.*

Nouv. sulp.

# LANTA'NA SELLOWIA'NA.

## SELLOW'S LANTANA.

EXOGENÆ, OR DICOTYLEDONEÆ.

{ Natural division to which this Plant belongs. }

NATURAL ORDER, VERBENACEÆ.

COBOLLIFLORÆ OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }

DIDYNAMIA, ANGIOSPERMIA. OF LINNEUS.

No. 115.

GENUS. Lantana. *Linnæus.* Calyx brevis, tubulosus, obsolete dentatus. Corolla hypogyna, tubo calycem longe superante tenui, limbo patente quadrifido inæquali. Stamina quatuor, inclusa, didynama. Ovarium biloculare, loculis uniovulatis, ovulis e basi loculorum erectis anatropis. Stylus filiformis. Drupa baccata, dipyrena, pyrenibus unilocularibus monospermis. Embryo exalbuminosa, radicula infera. Frutices suffruticesve. Folia opposita vel ternata, simplicia, dentata. Capitula axillaria, pedunculata. Flores bracteati, bracteis exterioribus involucrantibus.

SPECIES. Lantana sellowiana. *Link and Otto.* Fruticosa, gracilis, foliis breviter petiolatis ovato-rhombeis crenato-serratis rugosis piloso-scabris, capitulis florum longe pedunculatis subglobosis, bracteis late cordatis breviter acuminatis, corollæ tubo brevioribus.

Character of the Genus Lantana. Calyx short, tubular, obsoletely-toothed. Corolla hypogynous, the tube slender and much longer than the calyx, the limb spreading, unequally 4-cleft. Stamens four, within the tube of the corolla, didynamous. Ovary two-celled, each cell containing one erect anatropous ovule. Style filiform. Drupe fleshy, of two unilocular one-seeded pyrenes. Embryo without any albumen, and an inferior radicle.

Description of the Species, Lantana Sellowiana. A low branching shrub, often procumbent. Branches slender, twiggy, pubescent. Leaves opposite, on short footstalks, ovate, somewhat rhomboid, rather pointed, sharply crenated, narrowed, or rounded and entire at the base, with short rigid hairs on both sides, and rugose. Peduncles arising from the axillæ, two or three inches long, with minute appressed rigid hairs. Heads of flowers nearly globose. Flowers thickly imbricate, each one placed at the axilla of an ovate rounded, or somewhat heart-shaped bractea, of which the outer ones are much broader and form a sort of involucrum. Tube of the corolla three or four lines long, slender all the way up, pubescent. Limb spreading, consisting of four broad, somewhat retuse, segments, of

which the upper one is rather broader and the lower one rather longer than the others.

Popular and Geographical Notice. The genus Lantana, whether taken in its greatest extent, so as to include not only the old Camaras, but also the greater part or all the Lippias of modern botanists; or confined to its strict and perhaps more appropriate limits, the section Callioreas of Chamisso, is chiefly composed of South and tropical American species. Indeed, the few found in the old world being the same as some of the more common American species, it should, perhaps, be considered as a genus originally peculiar to the new world, from whence some species have spread into similar climates in other quarters of the globe. The present species is one of those which connect, in some measure, Lantana with Lippia; having much of the habit of the latter, with the fruit of the former. It is a native of the mountains of Rio Grande, where it is said by Mr. Tweedie to vary much, and to be frequently very agreeably scented. G. B.

Introduction; Where grown; Culture. The Lantana Sellowiana was first transmitted to Berlin in the year 1822, from the zealous collector whose name it bears. He had found it in the district of Montevideo. From his seeds it was raised in the Royal Botanical Garden of Berlin, in sufficient abundance to admit of being distributed shortly afterwards to various countries. We appear to have first obtained it in 1829, through the Edinburgh Botanic Garden, and being easily grown and multiplied, and a very desirable plant for early forcing, it is now not uncommon. Our drawing was made in September, at the Messrs. Loddiges' Nursery. There are two varieties of this plant; that of strongest growth should be preferred. During winter it should be kept in a cool stove or warm greenhouse; but early in June it may be turned out into the borders, or entire beds may be formed of it, where it will flower till destroyed by the frost. Cuttings of the young wood strike most quickly in spring. In pots its soil should be rich sandy loam.

### Derivation of the Names.

Lantana from lento to bind, a name given by botanists of the sixteenth century to various shrubs, on account of their flexible branches, and transferred by Linnæus to the Camaras of Tournefort, for some reason unknown to us. Sellowiana in honour of Sellow, for many years employed by the Prussian government as their collector in South America.

### Synonymes.

Lantana selloviana. Link and Otto: Abbildungen, p. 107, t. 50. Botanical Magazine, t. 2981.

*Oncidium reflexum.*

# ONCID'IUM REFLEX'UM.

## REFLECTED ONCIDIUM.

ENDOGENÆ, OR MONOCOTYLEDONEÆ.

{ Natural division to which this plant belongs. }

NATURAL ORDER, ORCHIDACEÆ.

GYNANDROSÆ, OF LINDLEY.

{ Artificial divisions to which this Plant belongs. }

GYNANDRIA, MONANDRIA, OF LINNEUS.

No. 116.

GENUS. ONCIDIUM. *SWARTZ.* PERIGONII explanati foliola exteriora sæpius undulata, lateralia libera vel sub labello connata, interiora conformia. LABELLUM maximum columnæ continuum, ecalcaratum, lobatum, basi tuberculatum vel cristatum. COLUMNA erecta, semiteres, apice utrinque alata. ANTHERA incomplete bilocularis, rostello abbreviato vel elongato, rostrato. POLLINIA duo, postice sulcata, caudicula plana, glandula oblonga. HERBÆ Americanæ tropicæ, epiphytæ, sæpius pseudo-bulbosæ, foliis coriaceis, scapis paniculatis vaginatis rariusve simplicibus. *ENDLICHER:* Genera plantarum, p. 203.

SPECIES. ONCIDIUM REFLEXUM. *LINDLEY.* PSEUDO-BULBIS ovatis monophyllis, foliis anguste-lanceolatis acutis, racemis subcompositis longissimis pendulis multifloris, sepalis petalisque lineari-lanceolatis undulatis acutis reflexis, labello reniformi-emarginato, laciniis lateralibus rotundatis dilatatis planis, crista depressa tridentata, apice bicorni, columna alis falcatis dentatis. *LINDLEY:* Botanical Register, Note to t. 1920.

CHARACTER OF THE GENUS, ONCIDIUM. PERIGON spreading, the outer division usually undulate, the lateral ones free or joined under the labellum, the inner divisions similar to the outer. LABELLUM large, continuous with the column, not spurred, lobed, tuberculated or cristate at the base. COLUMNA erect, semi-cylindrical, winged on both sides at the top. ANTHERS incompletely bilocular, the rostellum either short or long, and beaked. POLLEN MASSES two, furrowed at the back, with a flat caudicle and an oblong gland.

DESCRIPTION OF THE SPECIES, ONCIDIUM REFLEXUM. PSEUDO-BULBS oval, each bearing one leaf. LEAVES narrow, lanceolate, pointed. RACEMES pendulous, two or three feet long, and borne on a long foot-stalk, more or less compound, many flowered. BRACTS membranous, sheathing at each ramification. OUTER and INNER DIVISIONS of the perigon (sepals and petals) equal in size and similar in form, reflexed, oblong, lanceolate, about half an inch long, pointed, waved on the margin, of a pale, somewhat livid hue, yellowish on the edge. LABELLUM yellow, three quarters of an inch long, very

unequally three-lobed, the two lateral divisions about a line and half long, round, obtuse, with the margins bent down; the central division narrow at the base, then broadly rounded, almost reniform, and two-lobed; the crista on the base of the labellum consists of a number of tubercles, of which four or six are more prominent than the rest. COLUMNA also yellow, about three lines long, with an oblong or semi-ovate, somewhat falcate, wing on each side.

POPULAR AND GEOGRAPHICAL NOTICE. This beautiful genus forms one of the great ornaments of the woods in the hotter parts of America, especially in the West Indies; and the tierra caliente of Mexico, by the very graceful manner in which its numerous species hang from the stems of the trees. One species, closely allied to the present, is the plant commonly selected by the Mexican Indians to adorn their graves, and many have long been cultivated in the West Indian islands for the beauty of their flowers. The species here figured, which is very nearly allied to Oncidium altissimum, is a Mexican plant.

INTRODUCTION; WHERE GROWN; CULTURE. The Oncidium reflexum was first introduced into this country, it is believed, by Messrs. Loddiges of Hackney, who were, at any rate, the first to flower it, in their unrivalled collection. Our figure was taken from a well flowered plant in the collection of G. Glenny, Esq. of Worton Lodge; who obligingly favoured us, at the same time, with a specimen of a new Corræa, to which we hope to pay early attention. This is one of that splendid tribe of orchidaceous plants called Epiphytes (from επι EPI upon, and φυτον PHUTON a plant) in contradistinction to those which are terrestial, or grow on the earth. It should be observed that these plants are not parasitic: although they grow upon other plants they do not, like our mistletoe, receive nourishment from them. Decayed vegetable matter, lodging amongst their roots, may have some influence on their luxuriance; still, however, these Epiphytes are principally dependent on a warm humid atmosphere for their successful growth. "We have found, says Dr. Lindley, that no soil or temperature would nourish them in drought, and that any soil was good when the temperature and atmospheric humidity were carefully regulated. To speak very accurately upon these points, we should say that the mean temperature of the air, in the day, ought to be 87° or thereabouts, and that its humidity should be at the point of saturation, or nearly so."

### DERIVATION OF THE NAMES.

ONCIDIUM from ογκος a tubercle, and ειδος form, on account of the tubercular protuberances at the base of the labellum. REFLEXUM, reflected, in allusion to the divisions of the perigon.

### SYNONYME.

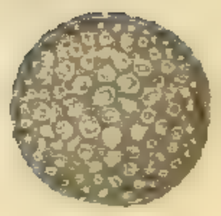
ONCIDIUM REFLEXUM. Lindley: Botanical Register, Note to t. 1920.

Satyrium erectum.

# SATY'RIUM EREC'TUM.

## UPRIGHT SATYRIUM.

ENDOGENÆ, OR MONOCOTYLEDONEÆ.

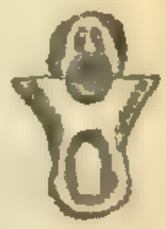


{ Natural division to which this plant belongs. }

## NATURAL ORDER, ORCHIDACEÆ.

GYNANDROSÆ, OF LINDLEY.

{ Artificial divisions to which this Plant belongs. }



GYNANDRIA, MONANDRIA, OF LINNEUS.

No. 117.

GENUS. Satyrium. *Swartz.* Perianthium ringens, labio inferiore e sepalis petalisque confecto, superiore e labello galeato, bicalcarato aut bisaccato. Columna sessilis aut elongata. Anthera resupinata, loculis parallelis aut divergentibus. Glandulæ polliniorum nudæ, discretæ. Stigma bilabiatum, labio superiore maximo inferius superante. Herbæ habitu Orchidis. Radices testiculatæ. *Lindley*: Genera and Species of Orchideous Plants, p. 335.

SPECIES. Satyrium erectum. *Thunberg.* Foliis ovato-lanceolatis oblongis coriaceis margine cartilagineis scabris patentibus, sensim in vaginis coriaceis convolutis imbricatis mutatis, spica multiflora, bracteis oblongis concavis demum reflexis corolla longioribus, sepalis oblongis petalisque linearibus acutis labello oblongo galeato fere longioribus, calcaribus ovario paulo brevioribus. *Lindley.*

Character of the Genus, Satyrium. Perianth gaping, the lower lip formed of the sepals and petals, the upper one of the helmet-shaped two spurred or bisaccate labellum. Columna sessile or elongated. Anther resupinate, the cells parallel or divergent. Glands of the pollen masses naked, distinct. Stigma two-lipped, the upper one large and projecting beyond the lower.

Description of the Species Satyrium Erectum. Stem a foot and a half or more in height, green and marked, especially in the lower part, with vinous purple spots. Leaves clasping the stem, ovate lanceolate, sharp, very broad at the base, green above, marked below with more or less of spots similar to those of the stem, the lower ones nearly six inches long, the upper ones gradually diminishing to the size of the floral bracts. Spike dense, elongating after the flowering, each flower sessile at the axil of a bract, longer than the flower, and reflexed after it fades. Ovarium flat next the stem, convex in front, and marked with three prominent ribs, of which two are waved. Flowers varying through every shade of colour, from brilliant vermillion to a pale and sickly yellow, becoming more or less

spotted with brown as they go off. SEPALS or outer divisions of the perigon oblong, lanceolate, sharpish or more or less blunt, rather longer than the labellum. PETALS or inner divisions similar, but narrower and rather shorter. LABELLUM perfectly helmet-shaped, with a longitudinal sharp rib along the back, the two spurs rather shorter than the ovary and closely clasping it. COLUMN elongated. ANTHER cells parallel.

POPULAR AND GEOGRAPHICAL NOTICE. In the fifth part of Lindley's Genera and Species of Orchideous Plants, there are thirty-eight species of this genus enumerated, of which by far the greater number are found in the colony of the Cape of Good Hope, apparently extending all along the high range of mountains which run parallel to the south coast, some few having also been gathered by Drége in Caffer land, beyond the limits of the colony, but still not far from the south coast. Three species have been found in Madagascar, one in the Isle of Bourbon, and three in the mountains of East India. It is one of those genera which, in South Africa, takes the place of our Orchises and Ophrydes, and appears fully to equal them in beauty, though from the difficulty of bringing them home and keeping them in cultivation, we are but little acquainted with them. The present species which has never yet been figured, and probably now cultivated for the first time in Great Britain, has a wide range in the Cape Colony, being found in various places, from the Table Mountain to Algoa Bay in Uitenhage.

G. B.

INTRODUCTION; WHERE GROWN; CULTURE. Collected on the Table Mountain, by a young German named Siebold, it was by him transmitted to Mr. Skirving, of Walton Nursery, near Liverpool, in May, 1838. From the bulbs there received, a number of specimens were in flower, in Mr. Skirving's stove, in the following February, (1839) when our drawing was made from one of them.

## DERIVATION OF THE NAMES.

SATYRIUM an old name of Dioscorides, applied by him and Pliny to various plants supposed to have stimulating properties. As some of them were probably Orchideæ, Linnæus took the name for one of his genera of Gynandria, none of the species of which, however, belongs to the genus to which the name has now become attached. ERECTUM, upright tall.

## SYNONYMES.

SATYRIUM ERECTUM. Thunberg: Flora Capensis, Schultes's edition, p. 16.
Lindley: Genera and Species, p. 340.

Passiflora kermesina.

# PASSIFLO'RA KERMESI'NA.

## COCHINEAL-COLOURED PASSION-FLOWER.

EXOGENÆ. OR DICOTYLEDONEÆ.

{ Natural division to which this Plant belongs. }

NATURAL ORDER, PASSIFLOREACEÆ.

CALYCIFLORÆ, OF DECANDOLLE.

{ Artificial divisions. to which this Plant belongs. }

MONADELPHIA, PENTANDRIA, OF LINNEUS.

**No. 118.**

GENUS. Passiflora. *Linnæus.* Calyx tubo brevi nunc brevissimo, limbo quinquepartito, laciniis sæpius intus coloratis. Petala quinque, rarius nulla, ad faucem calycis inserta, cum laciniis calycis alterna, iis sæpe subconformia at magis colorata. Corona filamentorum uni vel pluriserialis, tubo calycis intra corollam inserta, quarum series exterior e filamentis liberis constat interior e filamentis sæpisissime conniventibus liberis connatisve. Stamina quinque, toro inserta, cum ovarii stipite alte connata, apice libera, divergentia. Antheræ versatiles. Ovarium extra staminum tubum breviter stipitatum, subtrigonum uniloculare, placentibus tribus parietalibus. Ovula numerosa. Stylus brevis trifidus vel tres liberi. Stigmata tria capitata. Bacca pulposa, rarius submembranacea. Herbæ fruticesve scandentes. Folia alterna, stipulata. Pedunculi axillares, nonnulli cirriferi vel cirriformes cum pedunculis floriferis ex eadem axilla, floriferi sub flore articulati, nudi vel tribracteati.

SPECIES. Passiflora Kermesina. *Otto.* Scandens, glaberrima, cirrhosa, foliis trilobis, lobis ovatis obtusis basi utrinque 2-3-glandulosis, petiolo bi-triglanduloso, stipulis semiovatis obliquis, pedunculis elongatis unifloris nudis, calycis segmentis lineari-oblongis, petalis conformibus, corona brevi, seriei interioris conniventis filamentis connatis.

Character of the Genus, Passiflora. Calyx with a short tube, the limb 5-cleft, the divisions usually coloured inside. Petals five, seldom wanting, inserted at the throat of the calyx, alternating with its divisions, often similar to them, but more coloured. Crown of filaments inserted in the tube of the calyx within the corolla, consisting of one or more concentric rows, of which the outer is composed of free filaments, the innermost of connivent ones, free, or more or less connate. Stamens five, inserted on the torus and connected high up with the stalk of the ovary, free at the top, reflexed or spreading, each bearing a versatile anther. Ovary borne on a stalk projecting slightly above the sheath of the stamina, somewhat three-sided, one-celled, with three many-ovulated parietal placentæ. Style short, trifid, or three separate styles. Stigmas three, capitate. Fruit pulpy, or rarely almost membranous.

Description of the Species, Passiflora kermesina. Stems shrubby, climbing, branches perfectly smooth, as well as the whole plant of a shining or glaucous green, here and there tinged with purple. Leaves alternate, thin, very slightly peltate, divided about to

the middle into three ovate pointed spreading lobes, the lobes entire except two or three small glandular teeth at the base of each of them, and several small serratures near the base of the leaf, the upper side of the leaf green and veined, the under surface often more or less purplish. FOOTSTALKS one to two inches long, bearing one, two, or three stipitate glands. STIPULES oblique, broadly semiovate, blunt with a thread-like point, entire or irregularly toothed. TENDRILS axillary, simple. PEDUNCLES axillary, six or eight inches long or even longer, spreading, one-flowered, smooth, jointed under the flower, but without any bracts. CALYX tube three or three-and-a-half lines long, broad, thick, of a reddish green, divisions spreading, oblong, linear, an inch-and-a-half at least in length, blunt, scarcely keeled at the top, and without any dorsal point. PETALS oblong, flat, nearly as long as the divisions of the calyx, and like them of a rich crimson colour. CROWN consisting of two or three rows of very short purple filaments placed at the top of the tube of the corolla and free, and of an inner row inserted much lower down, and composed of a series of connate filaments of a pale colour, connivent round the staminal tube, and slightly free at the top. There is also near the base of the genital column a short ring or sheath, with five blunt teeth alternating with the stamina. STAMINAL TUBE and ovary green.

POPULAR AND GEOGRAPHICAL NOTICE. The beautiful tribe of Passion-flowers, inhabitants of the warm regions of both hemispheres, but more especially of the South American continent, are eminently adapted for the ornament of our stoves and greenhouses. Being of rapid growth they flower young, and many of the species, especially the one now figured, the Passiflora racemosa, and some others, remain for many months covered with a profusion of flowers. The Passiflora kermesina is a native of Brazil, from whence wild specimens have been transmitted by Sellow, Gardner, and others, gathered in the neighbourhood of Rio Janeiro, the treasures of which district, notwithstanding the long continued labours of native, as well as other collectors, seem to be as yet far from exhausted. G. B.

INTRODUCTION; WHERE GROWN; CULTURE. The Passiflora kermesina was first raised at Berlin, from Sellow's seeds, and from thence brought to the garden of the Horticultural Society, in 1830. Our drawing was made at the Messrs. Loddiges. It should be planted in peat, loam, and sand; and cuttings should be struck in sand.

### DERIVATION OF THE NAMES.

PASSIFLORA or Passion-flower, from some resemblance supposed to exist in the floral appendages to the old representations of our Saviour's Passion. KERMESINA cochineal-coloured.

### SYNONYME.

PASSIFLORA KERMESINA. Link and Otto: Abbildungen? Botanical Register, t. 1633. Botanical Magazine, t. 3503.

Campsiandra laurifolia

# CAIOPHO'RA LATERI'TIA.

## BRICK-RED CAIOPHORA.

EXOGENÆ, OR DICOTYLEDONEÆ.

{ Natural division to which this Plant belongs. }

NATURAL ORDER, LOASACEÆ.

CALYCIFLORÆ, OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }

POLYANDRIA, MONOGYNIA, OF LINNEUS.

No. 119.

GENUS. Caiophora. *Presl.* Calycis tubus ovario adhærens, spiraliter striatus; limbus quinquepartitus, laciniis pinnatifidis. Petala quinque, breviter unguiculata, concava. Squamæ quinque, petaloideæ, petalis alternæ, concavæ, truncatæ vel emarginatæ, dorso tricarinatæ, subtriaristatæ, intus basi filamentis duobus vel quatuor instructæ. Stamina numerosa, in phalanges quinque petalis oppositas disposita. Stylus obtusus, apice trigonus, rarius 4-5-gonus, angulis apice longitudinaliter stigmatiferis. Capsula ovata vel oblonga, calyce reflexo coronata, unilocularis, ad suturas tres spirales dehiscens, polysperma. Placentæ in valvis marginales, demum liberæ. Herbæ habitu Loasæ, sæpe volubiles. Folia opposita. Pedunculi solitarii, uniflori.

SPECIES. Caiophora lateritia. Caule volubili hispido, foliis petiolatis profunde pinnatifidis, laciniis ovatis lanceolatisve, superioribus confluentibus hispidis, squamis corollæ dorso brevissime aristatis, filamentis sterilibus stylo parum brevioribus, capsula subcylindrica.

Character of the Genus, Caiophora. Calyx tube adhering to the ovarium, spirally striated, the limb divided into five pinnatifid lobes. Petals five, shortly clawed, concave. Squamæ five, petaloid, alternate with the petals, concave, truncate or emarginate, three-keeled on the back, often three-pointed, having inside two or four sterile filaments. Stamens numerous, placed opposite the petals in five bundles. Style obtuse, three-angled, the angles bearing the stigmas. Capsule ovate or oblong, crowned with the reflected calyx, one-celled, opening at three spiral sutures, many-seeded. Placentæ along the margin of the valves, at length free.

Description of the Species, Caiophora lateritia. Stem climbing, armed, as well as the leaves, with scattered rigid hairs, each arising from a tubercle and mixed with a number of very short ones. Leaves opposite, petiolate, thin, and membranous, three to six inches long; in their general form ovate lanceolate, pinnately divided, the lower lobes quite to the midrib and even borne on partial footstalks, the upper ones confluent into a long sinuate terminal lobe, each lobe ovate or lanceolate, and toothed. Peduncles axillary, solitary, as long or longer than the leaves, often twisted, bearing each a single flower without any bracts. Calyx with a cylindrical tube, somewhat

turbinate, marked by ten longitudinal, spirally twisted ribs, densely hispid; limb consisting of five broadly linear foliaceous divisions, marked on each side with one or two teeth. PETALS five, inserted between the lobes of the calyx, of a brick-red colour, hood-shaped, hairy on the outside. SQUAMÆ five, opposite the divisions of the calyx, about a third the length of the petals, green, concave, three-ribbed, truncate at the top, and each dorsal rib terminating in a short brown blunt point. STAMENS arranged in five bundles, placed opposite, and almost inclosed within, the petals; each bundle consisting of about fifteen stamens, which are nearly as long as petals: within each squama are also two filaments, thick and expanded at the base, projecting far beyond the squamæ, connivent round the stigma, tapering and slightly pubescent towards the extremity, which terminates in a minute orange point, usually hooked. OVARY included within the tube of the calyx, one-celled, terminating in a broad, flat, spreading disk, with five roundish green hairy lobes, alternating with the stamens and petals. STYLE thick, cylindrical. STIGMAS three, occasionally four or five, linear, decurrent nearly half way down the style. PLACENTÆ three, extending the whole length of the ovarium, linear, attached by the back, the margins free, each bearing a very great number of ovules; sometimes where there are four or five styles, there is also a fourth or fifth placenta, extending a short way down the ovarium. CAPSULE nearly cylindrical, slightly swollen in the middle, much twisted, two to three inches long. SEEDS opening by longitudinal slits along the centre of each placenta, each half of which remains attached to the margin of the valve. SEEDS numerous, tuberculated.

POPULAR AND GEOGRAPHICAL NOTICE. The Order of Loasaceæ, to which this genus belongs, is almost exclusively American, there being only one or two species known in the old world from South West Africa. Three species only were known to Linneus, and it now consists of about twelve genera and nearly one hundred species, growing chiefly in the mountainous districts of both portions of the American continent, from the Oregon to South Chile, and from the Pacific eastward as far as the branches of the great chain extend. They form a perfectly distinct order among the polypetalous Calycifloræ, readily known amongst allied groups as well by their habit as by characters easily appreciated.

Their first and most obvious affinity is with Cucurbitaceæ, with which the tendency to a climbing habit, the rigid hairs and asperities of their leaves and stem, as well as the inflorescence and colour of the flowers, give them a general similarity in appearance, confirmed by the adhering calyx, unilocular ovarium, parietal placentæ, and the quinary arrangement of the floral envelopes, usually combined with a

ternary fruit. On the other hand, whilst the structure of the seeds forms a constant and positive distinction between the Orders, the Loasaceæ may also be generally known by the absence of tendrils, hermaphrodite flowers, numerous stamens and dry fruit.

The connection with Passifloraceæ and other Orders allied to Cucurbitaceæ can only be said to be through the latter, and therefore requires no further comment. The older opinion, however, that Loasaceæ are very near Onagraceæ, put forth first, perhaps, by Jussieu, appears never to have been quite abandoned, although founded on a mere artificial character. It seems, indeed, difficult to trace any other resemblance than what is common to all polypetalous calyciflorous Orders; for even the adherent ovarium, the only additional character the two Orders appear to have in common, is not quite constant in Loasaceæ, and is, moreover, of far less importance than the regular binary arrangement of the floral and carpellary parts, and the central placentation which so widely remove the Onagraceæ, independently of the exalbuminous seeds, the very different habit, and other minor characters.

The greater number of Loasaceæ are remarkable for a property which they have in common with the totally different Order of Urticeæ, the stinging nature of the secretion from the hairs, the only drawback to their more general cultivation as ornaments to our flower borders and greenhouses. Yet, as many of them, especially the species now figured, may be trained to a considerable height, and produce a profusion of flowers, they are conspicuous enough to be placed at a distance from the paths, sufficient to avoid all inconvenience in this respect.

Another circumstance, worthy of remark in this order, is the facility with which the transition from petals to stamens may be observed. As in Bartonia and Mentzelia the transition is direct, some species having ten similar petals; others five petals and five petaloid stamina alternating with them; and others again, five petals, with the place of the five others occupied by stamina not in the least differing from the others; so in Loasa, Caiophora, &c. the transition is through the squamæ, which, with the filaments arising from their inner base, are evidently transformations of the petals and bundles of stamina with which they alternate.

One of the most curious anomalies in this Order is the Gronovia scandens of Linneus, which, in its palmately-nerved leaves and definite stamina, affords a further approach to Cucurbitaceæ, whilst it has stinging hairs, hermaphrodite flowers and no tendrils, as in Loasaceæ, and is singular by its solitary pendulous ovarium, and the presence of a cupular disk or corona between the stamina and style.

A considerable approach to this structure is described by Kunth in Klaprothia.

The subject of the present plate, known in our gardens as Loasa lateritia, cannot, unfortunately, retain that name; firstly, because another very different species was previously published under that denomination, by Gillies and Arnott, (see Hooker's Botanical Miscellany, v. 3, p. 330,) and secondly, because the group to which it belongs proves, on examination, to be separated from the mass of Loasæ by characters of sufficient importance to adopt the genus Caiophora, first proposed for it by Presl in the Reliquiæ Hœnkeanæ, though originally indicated by Jussieu, in the fifth volume of the Annales de Museum. The chief point is the dehiscence of the capsule, which opens by spiral longitudinal slits, instead of having the three terminal valves of Loasa. In this respect it approaches Blumenbachia, to which some have suggested that it should be united; but in the latter, the nearly five-celled ovarium, and the perfectly five-celled fungose fruit, are anomalies in the Order which are certainly of generic importance, and are further confirmed by a peculiar habit, arising chiefly from the palmately-lobed leaves, bracteate peduncles, and white flowers. Many of these particulars are an approach to Cucurbitaceæ, but the flowers and seeds are undoubtedly those of Loasaceæ.

Besides this species, the genus Caiophora comprehends four or five South American plants, from the Cordilleras of South Peru and Chile, and South Western districts of Brazil. G. B.

Introduction; Where grown; Culture. Found by Mr. Tweedie of Buenos Ayres, in the mountains of Tucuman; it was by him transmitted to the Glasgow Botanical Garden in 1836. It has since then become plentiful, as it is found to be almost hardy, flowers in great profusion nearly the whole year round, and ripens its seed in abundance. Specimens, growing in the open air against a wall in the Botanic Garden of Glasgow; and others without even that protection, trained on an open trellis work, in the garden of James Hunter, Esq. of Hafton, near Dunoon, were last October in the greatest possible beauty, the petals having acquired a much richer hue than is usually the case in our greenhouses. Our drawing was made from a plant which we put out against a wall in May, where it grew, in the course of the summer, to the height of nearly twenty feet, and flowered most luxuriantly.

### Derivation of the Names.

Caiophora from *καιω* to burn, and *φορος* bearing, in allusion, probably, to the stinging nature of the hairs which the plants bear. Lateritia brick-coloured.

### Synonymes.

Loasa lateritia. Hooker: Botanical Magazine, t. 3632, not of Gillies.

# ZICH'YA COCCIN'EA.

## MANY-FLOWERED ZICHYA.

EXOGENÆ, OR DICOTYLEDONEÆ.

{ Natural division to which this Plant belongs. }

## NATURAL ORDER, LEGUMINOSÆ.

CALYCIFLORÆ, OF DECANDOLLE.

{ Artificial divistons to which this Plant belongs. }

DIADELPHIA, DECANDRIA. OF LINNEUS.

No 120.

GENUS. Zichya. *Hugel.* Calyx campanulatus, bilabiatus, labio superiore bidentato, inferiore tripartito. Corollæ vexillum unguiculatum, late orbiculatum, emarginatum, reflexum, basi biappendiculatum, alis longius. Alæ oblongæ, carinæ ultra medium adhærentes. Carina incurva, obtusa, alis brevior vel subæquilonga. Stamina distincte diadelpha, filamento vexillari basi recto inarticulato. Antheræ uniformes. Vagina disci nulla. Ovarium pluriovulatum. Stylus brevis, adscendens, superne in stigma subcapitatum sæpius dilatatum vel breviter appendiculatum desinens. Legumen oblongo-lineare, compressum, coriaceum, sutura seminifera incrassata, isthmis cellulosis multiloculare. Semina strophiolata. Frutices volubiles Australasici. Folia pinnatim trifoliolata, foliolis stipellatis. Pedunculi axillares, apice subumbellatim multifloræ. Bracteæ et stipulæ parvæ. Corollæ coccineæ.

SPECIES. Zichya coccinea. *Bentham.* Foliolis obovatis oblongisve subrepandis supremis ovato-lanceolatis acutis, subtus tomentosis, laciniis calycinis tubo subæquilongis; carina alis parum breviore, stylo apice vix dilatato.

Character of the Genus, Zichya. Calyx bell-shaped, two-lipped, the upper lip two-toothed, the lower three cleft. Standard clawed, broadly orbicular, emarginate, reflexed, with two inflexed appendages at the base longer than the wings. Wings oblong, adhering to the keel above the middle. Keel incurved, obtuse, shorter than the wings, or about as long. Stamens distinctly diadelphous, the vexillary filament straight, and not articulate at the base. Anthers similar in form. Sheath at the base of the ovary none. Ovary with several ovules. Style short, ascending, ending in a subcapitate stigma. Pod oblong, linear, compressed, coriaceous, separated internally into several cells by a cellular substance. Seeds with a strophiola.

Description of the Species, Zichya coccinea. Like others of the Kennedia tribe, this is a slender climber. Branches usually pubescent when young. Petioles short. Leaflets from half an inch to an inch or more in length, broadly ovate or obovate, and blunt in the lower leaves, ovate, oblong, and sharp in the upper ones, with

short appressed hairs on the upper surface, and a more or less dense down underneath. PEDUNCLES axillary, usually much longer than the leaves, and bearing at the top a head or umbell of from six to twelve nodding flowers BRACTS very small. PEDICELS much shorter than the calyx. CALYX about three lines long, divided to near the middle into five lanceolate pointed teeth, of which the two upper ones are joined somewhat higher up. PETALS scarlet. STANDARD marked with a yellowish spot at its base. KEEL nearly as long as the wings. STYLE scarcely dilated at the extremity.

POPULAR AND GEOGRAPHICAL NOTICE. This is another of the genera already referred to at No. 84, in the second volume of the Botanist, as separated from the old genus Kennedia. Independently of the more minute botanical character, it is at once known by the umbellate or capitate inflorescence. It may also be very readily distinguished from the true Kennedias (No. 83 of the Botanist) by the short broad petals, and especially the form of the keel, and from Hardenbergia (No. 84) by the red flowers. The fourth genus, Physolobium, has flowers much like those of Zichya, but the inflorescence and pod are both different All the Zichyas appear to be natives of the south-western districts of Australia, the present species having long since been gathered in the vicinity of King George's Sound. G. B.

INTRODUCTION; WHERE GROWN; CULTURE. This exceedingly showy climber was first introduced into the Garden of the Malmaison, near Paris, at the beginning of the present century, and has ever since appeared occasionally in our collections, though it is by no means common. The reason is evident; it does not produce suitable shoots for cuttings, without peculiar management. In the spring, a plant should be selected for the purpose, from which all the flower buds should be taken as they appear; and all the shoots should be stopped as they begin to grow, until young shoots are emitted from their joints. These must be taken with a heel of the old stem, be planted in sand, and placed in heat. When thus managed, cuttings will root quickly. The plants require frequent repotting; and they never should be placed out of doors in the summer.

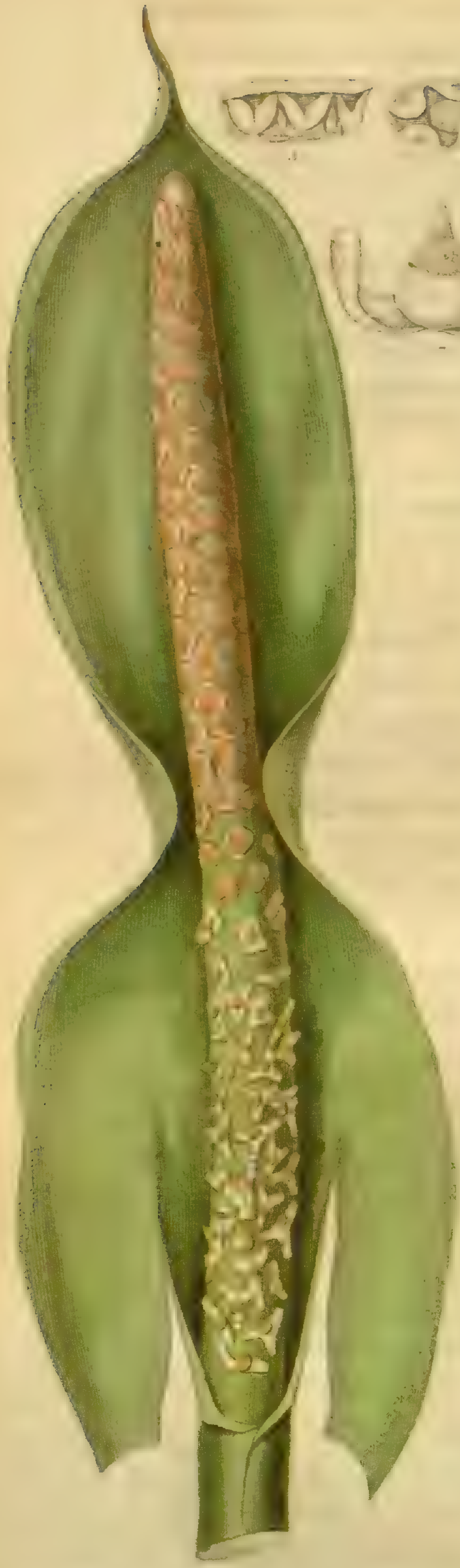
### DERIVATION OF THE NAME.

ZICHYA named by Baron Charles von Hugel, who brought seeds of several species home from South-west Australia, in honour of Countess Molly Zichy Ferraris, a great promoter and patron of horticulture in Austria. COCCINEA scarlet.

### SYNONYMES.

KENNEDIA COCCINEA. Ventenat: Jardin de la Malmaison, t. 105. Botanical Magazine, t. 2664. Sweet: Flora Australasica, t.

ZICHYA COCCINEA. Bentham: Annalen des Wiener Museums, v. 2, p. 123.



J. S. Hinsdera del.

*Cypripedium Acaule*

C. H. Lith.

# DIEFFENBA'CHIA SEGUI'NUM.

## DUMB CANE.

ENDOGENÆ. OR MONOCOTYLEDONEÆ.

{ Natural division to which this Plant belongs. }

### NATURAL ORDER, ARACEÆ.

SPADICOSA OF LINDLEY { Artificial divisions to which this Plant belongs. } MONŒCIA, POLYANDRIA, OF LINNEUS.

### No. 121.

GENUS. Dieffenbachia. *Schott.* Spatha convoluta. Spadix inferne pseudo-hermaphroditus, spathæ adnatus, superne masculus, liber, appendice sterili nulla. Stamina plurima, antheræ tres vel quatuor, biloculares, oblongæ, connectivo truncato verticillatim adnatæ loculis parallelis, apice poro communi dehiscentibus. Ovaria plurima, libera, singula staminodiis tribus clavatis, basi subconnatis cincta, unilocularia. Ovulum unicum, prope basim parietale, e funiculo brevi adscendens, orthotropum. Stigma discoideum, sessile. Baccæ uniloculares, monospermæ. Semen subglobosum, testa coriacea, crassiuscula, umbilico basilari lato. Embryo in axi albuminis antitropus, extremitate radiculari umbilico e diametro opposita, supera. *Endlicher:* Genera plantarum, p. 238.

SPECIES. Dieffenbachia seguinum, caulescens ascendens, foliis oblongo-ovatis acuminatis, spadice spatha oblonga sub-breviore.

Character of the Genus, Dieffenbachia. Spathe convolute. Spadix covered on one side of the lower part with fertile flowers containing abortive stamens, and attached on the other side to the spathe, free in the upper part where it is completely invested by the male flowers, without any marked appendage above them. Stamens numerous, with three or four oblong bilocular anthers, adnate and arranged vertically round a truncate connective, with their cells parallel to the axis, and bursting at the apex by a common pore. Ovaries numerous, free, unilocular, each surrounded by three clavate barren stamens which are united together close to the base. Ovule solitary, attached by a short funicular chord to the paries near the base, ascending, orthotropous. Stigma forming a sessile disk on the summit of

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### Reference to the Dissections.

1, The entire plant, diminished. 2, The inflorescence, of the natural size; the lower convolute portions of the spathe forced back and torn. 3, Side view of a stamen. 4, Same seen below. 5, The various bodies seen in a mass of ejected pollen. 6, A biforine. 7, A fertile flower with its three staminodia. 8, The ovarium transversely cut a little below the stigma, (s), indicating the descent of the stigmatic tissue, marked by a yellow spot. 9, The same cut a little lower down, exhibiting the top of the ovule and gelatinous expansion of the placenta (a). 10, A vertical section of the ovarium: (a) the placenta partially investing the ovule. 11, The ovule. 12, The placenta. 13, A vertical section of the ovule, shewing the position of the lobed nucleus.

the ovary. FRUIT composed of unilocular one-seeded berries. SEED somewhat globular, with a coriaceous, rather thick testa, and broad umbilical scar (or hilum) at the base. EMBRYO antitropous, in the axis of the albumen, with the radicular extremity uppermost, diametrically opposite to the umbilical scar.

DESCRIPTION OF THE SPECIES, DIEFFENBACHIA SEGUINUM. STEM between five and six feet long, procumbent unless supported, but ascending towards the extremity, succulent and dark green, marked with pale brown transverse rings, which are the scars of the fallen leaves. LEAVES, about half a dozen crown the stem, with a limb of twelve and a petiole of four inches in length; ovate-oblong, waved, acuminate, with a thick midrib from which diverge parallel primary veins, somewhat coriaceous, dark green with a few paler blotches, but no perforations (as is the case in some specimens); petioles channelled, sheathing and terminating upwards in two lobes or auricles somewhat affecting the appearance of a ligule. The limb of the leaf at the base of some flower stalks is abortive, whilst the petiole is still complete. SPATHES three or four, axillary, six inches long, on short peduncles, pale green, convoluted in the lower portion, pinched in the middle, and open above. SPADIX very little shorter than the spathe, to which it is united along one side throughout that portion of the lower half on which the fertile flowers are seated, but free in the upper portion which bears the barren flowers. MALE FLOWERS completely covering the upper half of the spadix, each composed normally of three two-celled anthers, these are agglutinated together, and by mutual pressure each becomes an hexagonal peltate stamen with six anther cells ranged vertically round a thick common connective. It is possible that the process of agglutination is still more complete in some cases, and the stamens of different flowers becoming united, the resulting stamen has occasionally four instead of three anthers; and also that the anthers (as stated in the generic character) may discharge their pollen through a common pore. But in the present example, each anther-cell bursts above by a separate and large triangular pore. Towards the middle of the spadix, a few male flowers are scattered in a detached manner, and have an evident tendency to develope their stamens free, and one of them, has even produced a pistil, thus forming a truly hermaphrodite flower, and affording a complete proof (if any were wanting) that each solitary stamen, and each solitary ovarium in other diclinous genera of Araceæ are to be considered

as separate flowers. FEMALE FLOWERS scattered over that portion of the lower part of the spadix which does not adhere to the spathe; each composed of three, or (by abortion) of two or one, abortive white stamens (or staminodia) more or less united at their base, so as to surround with an annulus a green and nearly globular ovary, crowned by a bright yellow glutinous discoid stigma. The ovaries are one-celled, with a single ovule attached laterally to a parietal but nearly basilary placenta, with somewhat the character of a gelatinous arillus half surrounding the ovule. OVULE top-shaped with the apex inclining downwards, being attached about the middle by a short funicular chord. [N. B.—The ovary has been described as two-celled, with several ovules in each cell; apparently from mistaking the single ovule for a dissepiment, and the arillus-like lobes of the placenta for ovules. The ovule, also, is stated to be orthotropous, and with respect to its position in the ovule it is "erect," but with respect to its lateral attachment it would rather be "hemitropous," the axis lying transverse to the hilum.] The embryo was not yet formed, but a section of the ovule showed a nucleus in the axis, with two lobes at the upper end or near the base, which had a striking resemblance to a dicotyledonous embryo. J. S. HENSLOW.

POPULAR AND GEOGRAPHICAL NOTICE. This plant is abundant in the West Indies, and in cool situations in various parts of tropical America. It has always appeared to us to possess a particular interest, from its so clearly affording a link in the chain of evidence by which the true structure of the flowers of the genus Arum, and others of the same family, have been determined. It will also be seen by our description of the specimen here figured, how completely a slight monstrosity among one of the staminiferous flowers near the middle of the spadix exposes the true nature of the staminodia in the fertile flowers lower down. The Genus Dieffenbachia has been separated from Caladium both on account of its being furnished with these staminodia, and also from having the lower half of the spadix attached on one side to the spathe. The singularly curious microscopic organs named "Biforines" by Mons. Turpin, their discoverer, have been hitherto observed only in the leaves of various species of the old genus Caladium. One of these, from a leaf of the present plant, is represented in our figure 6. Upon scraping a little of the parenchyma from a leaf, especially from its under surface, and placing it on glass, in a drop of water, the biforines are readily detected with a lens

of one-tenth of an inch focal length. They are oblong or cylindrical membranous cells, pointed at each end. Their axis is dark coloured, and composed of a bundle of extremely fine spiculæ, lying parallel to each other, and each of them is nearly as long as the cell. Upon watching these objects for a little while after they have been placed in water under the microscope, the spiculæ are seen to be ejected one by one, at the one or other, or both extremities of the cell. The reaction caused by their ejection moves the cell a little to one side, so that the spiculæ are not all discharged in the same direction, and in consequence they ultimately lie in a confused heap near the point of exit. These organs are so very singular in their structure, and the phenomenon they present is so remarkable, that we are tempted to extend our notice of them, by condensing the detailed account of M. Turpin, in the sixth volume of the new series of the Ann. des Sciences They are there described as always lying between the vesicles of the cellular tissue which they exceed in size, being about $\frac{1}{10}$ of a millimetre (?) in length. They are composed of three separate parts. The first consists of an exterior perfectly transparent and colourless, though rather thick membrane, forming a vesicle, which is either fusiform, or a cylinder terminated by cones, and which, consequently, when seen under the microscope in profile, appears either like an oval, or a hexagon, with two of its opposite sides considerably elongated. Each extremity is perforated by a small opening, with the edges a little thickened. The second part consists of an inner fusiform vesicle, composed of a transparent, and extremely thin membrane and lying in the axis of the outer vesicle, and extending its whole length, but with the transverse diameter not occupying more than one third of that of the outer vesicle. Within this inner or intestinal vesicle, lies the bundle of numerous acicular chrystals, of nearly the same length as the two vesicles, and completely filling the inner one. A single spicula appears to be perfectly colourless, but collectively they assume a yellowish or brownish tinge. The biforines are therefore composed of two organized coats, and these inorganic chrystals. In order that the spiculæ may be ejected, the biforines must be immersed in water whose temperature is not less than 20° C. and then they are emitted at short intervals, from 1 to 6 at a time, the biforines recoiling at each discharge like a little cannon. When all the spiculæ are emitted, the intestinal vesicle collapses; and ultimately the exterior one also does the same, to a greater or less extent. To explain this action, Monsieur Turpin supposes that the space between

the two vesicles is filled with a dense mucilaginous sap, of the same quality as that which occurs in the cellular texture of the plants in which they are found. When placed in water, which is of considerably less specific gravity than the sap, the ordinary effects of Endosmose takes place. The water penetrates the coat of the outer vesicle, fills and distends the space between the two, until pressing strongly upon the inner vesicle, it forces a discharge of its contents. The biforines are not confined to the parenchyma of the leaf, but occur in other parts of the cellular tissue, and are even found intermixed with the pollen after it is discharged from the anthers. Our figure 5, represents part of a mass of pollen collected on the surface of the spathe, after it had fallen from the anthers. It formed so pleasing an object for the microscope, that we thought a particular description of it might be acceptable.

1st. Spherical pollen grains, as at (*a*), of different sizes; their contained granules appearing as a dark central mass surrounded by a transparent coat.

2nd. Pollen grains, as at (*b*), of irregular shapes; resulting from modifications of the spherical form, by the peculiar action which produces the pollenic-tubes. In some cases the grain was oblong; in others there were one, two, or more prominences upon the surface; and in others the tubes were more or less completely developed, with the granules either still contained in them or dispersed.

3rd. The Biforines, at (*c c*). In some cases the cell was more or less irregular. They occur either singly, or lying two or three together.

4th. Crystals, from minute specks up to the size of the grains of pollen. Some appeared like squares, as at (*d*), with dark angles; or with diagonal lines; others, like oblongs with a dark triangle on each end, as at (*e*). These appearances clearly indicate their form to be a square prism capped at each end with a tetrahedral pyramid; and in all probability they are composed of oxalate of lime,

5th. Raphides, or slender spiculæ, at (*f*), similar in appearance to, but larger than, those contained in the "biforines."

The Dumb Cane is further remarkable from the extremely acrid properties of its juice, the smallest portion of which when applied to the mouth is sufficient to cause acute pain. It has obtained its popular name from its swelling the tongue and mouth of any one who

bites it, so as to prevent his speaking. An accident which happened to one of the men employed at Kew, who chanced to bite one of these plants, is recorded by Sir W. J. Hooker, where "the tongue swelled to such a degree that he could not move it; he became utterly incapable of speaking, and was confined to the house for some days in the most excruciating torments." In those regions of the West where a barbarous tyranny, supported by unjust, and unchristian laws, ministers to the selfishness of man, by maintaining one unhappy race of our fellow creatures under the curse of a hopeless and degrading bondage, a cruel master will sometimes punish his slave by rubbing the juice of the dumb cane over his mouth; thus inflicting on him a torment which probably could only be exceeded in violence, by flogging him with one of those dreadful species of nettle found in the East Indies, the effects of whose stinging is felt for months, and in some cases is said to produce death. An important use is, however, made of the juice of the Dumb Cane, it being extensively used in the process of refining sugar.

INTRODUCTION; WHERE GROWN; CULTURE. This plant has been long in the country, having been cultivated in 1759, by Miller. The present specimen flowered in the stove of the Botanic Garden, at Cambridge, in January and February of the present year, 1839. It requires no particular treatment.

### DERIVATION OF THE NAMES.

DIEFFENBACHIA, apparently in honour of Dieffenbach; but not having the Wiener's Zeitschieft at hand, in which Schott instituted the Genus, we cannot say precisely. SEGUINUM the latinized term for "*Seguine*," by which name Jacquin informs us this plant is known to the French in the West Indies.

### SYNONYMES.

CALADIUM SEGUINUM. Hooker's Exotic Flora, Vol. 1, Pl. 1. Bot. Mag. Vol. 52, Pl. 2606.

*Trichopilia tortilis.*

*Nemtz sculp*

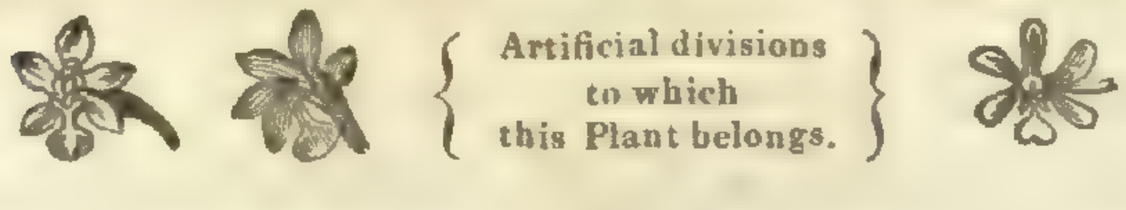
# TRICHOPI'LIA TOR'TILIS.

## TWISTED TRICHOPILIA.

ENDOGENÆ, OR MONOCOTYLEDONEÆ.

NATURAL ORDER, ORCHIDACEÆ.

GYNANDROSÆ, OF LINDLEY.




GYNANDRIA, MONANDRIA, OF LINNEUS.

No. 122.

GENUS. TRICHOPILIA. *LINDLEY*. PERIGONII patentis foliola exteriora et interiora æqualia, linearia, crispa. LABELLUM magnum, convolutum, columnæ parallelum, trilobum, lobo intermedio subbilobo planiusculo, intus nudum. COLUMNA teres, clavata, clinandrio cucullato trilobo villoso-fimbriato. ANTHERA unilocularis, compressa, antice convexa. POLLINIA duo, postice sulcata, caudiculæ tenui cuneatæ adhærentia, glandula minima. *ENDLICHER:* Genera Plantarum, p. 202.

SPECIES. TRICHOPILIA TORTILIS. *LINDLEY*. HERBA terrestris, pseudobulbis carnosis, vaginis maculatis tectis, monophyllis, foliis coriaceis planis vel leviter complicatis, floribus axillaribus solitariis.

CHARACTER OF THE GENUS, TRICHOPILIA. PERIGON spreading, the outer and inner divisions equal, linear, crisped. LABELLUM large, convolute, parallel to the column, three-lobed, the intermediate division nearly two-cleft and flattish, naked inside. COLUMN cylindrical, club-shaped, the receptacle of the anther hood-shaped, three-lobed, fringed with hairs. ANTHER one-celled, compressed, convex in front. POLLEN MASSES two, furrowed at the back, adhering to a slender wedge-shaped caudicula, with a very small gland.

DESCRIPTION OF THE SPECIES, TRICHOPILIA TORTILIS. PSEUDOBULBS oblong, furrowed, compressed, covered with brown sheaths, marked with dark spots, and sometimes nearly as long as the leaves. LEAVES solitary, oblong, coriaceous, sharp, flat or slightly folded. FLOWERS large, axillary, solitary, and sessile. OUTER and INNER DIVISIONS of the PERIGON equal, linear lanceolate, very spreading, spirally twisted, crisped on the margin where they are of a dingy yellow, brick-coloured in the centre. LABELLUM nearly as long as the divisions of the perigon, about two inches, white with unequal red spots inside, rolled round the column in the lower part, the limbs very unequally divided into three broad lobes, of which the middle one is very large and slightly cleft. COLUMN continuous with the ovarium, cylindrical, club-shaped, white, the receptacle of the anther extended above it in the shape of a hood, divided into three ascending falcate lobes, which are fringed on the edges. ANTHERS compressed, with a

little point. POLLEN MASSES two, small, pear-shaped, furrowed at the back, inserted on a wedge-shaped caudicle, with a very small oval gland.

POPULAR AND GEOGRAPHICAL NOTICE. This genus consists but of this single Mexican species, of which the habits are as yet scarcely known. It appears, however, to be terrestrial, and to grow in that *tierra caliente*, which, with Demerara and tropical Brazil, is now supplying our stoves with innumerable novelties in the inexhaustible tribe of Orchidaceæ. To such a degree, indeed, has the zeal for collecting these interesting plants been carried, that notwithstanding the difficulties attending their cultivation, till lately considered as almost insurmountable, the number of species contained in the stoves of Messrs. Loddiges & Son, according to their last catalogue is 1024, being nearly three times the amount of the total number, including European ones, contained in Persoon's Synopsis, published in 1807, when there were not above two or three dozen in garden lists, and scarcely half a dozen in cultivation. G. B.

INTRODUCTION; WHERE GROWN; CULTURE. First introduced from Mexico, in 1835, by George Barker, Esq. of Springfield, near Birmingham; this rare and curious plant has since spread into a few of our principal collections. Our drawing was made in winter, at the Messrs. Loddiges', where it thrives under the same treatment as Maxillaria, its nearest allied genus.

It cannot be too frequently noticed that in potting orchidaceous plants every available means should be employed to insure the most perfect drainage. We have not yet seen such as we conceive would be the best pots for the purpose. They may be made without bottoms, with a simple rim projecting outwards at the bottom, as a flange, nearly corresponding with that usually worked round the top. This would give the required strength. A number of little basons, of different sizes, made of the same material as the pot, and perforated all over with holes, a quarter of an inch diameter, would form suitable bottoms. These should be put into the pots with their convex sides upwards; and the conical shape of the pots would admit of these moveable bottoms lodging against their sides at a higher or lower point, according to the size of the bottom chosen, so as to suit the wishes of the cultivator.

### DERIVATION OF THE NAMES.

TRICHOPILIA from θριξ, τριχος hair, and πίλιον a cap, in allusion to the fringed hood or cap that covers the anther. TORTILIS, twisted.

### SYNONYME.

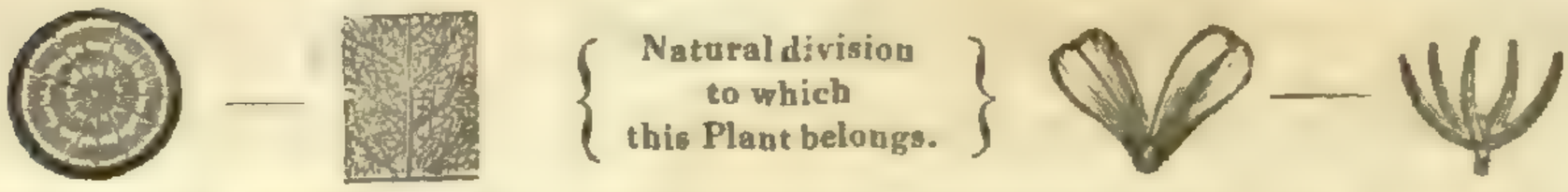
TRICHOPILIA TORTILIS. Lindley: Botanical Register, t. 1863.

*Allamanda cathartica*

# ALLAMAN'DA CATHAR'TICA.

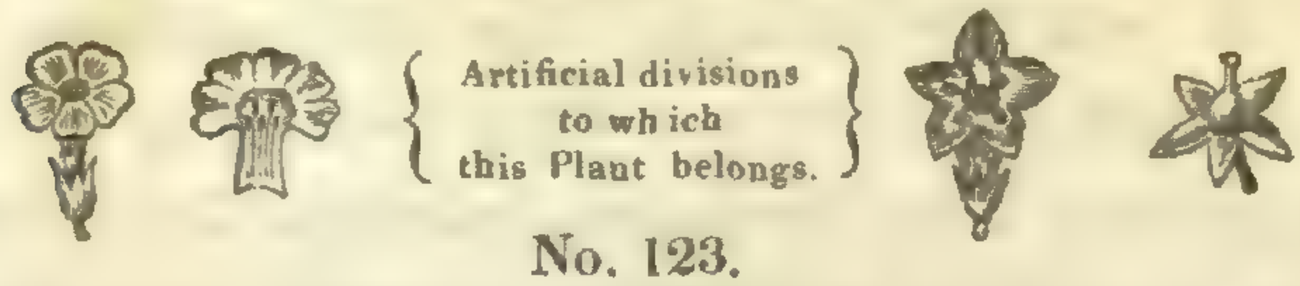
## WILLOW-LEAVED ALLAMANDA.

EXOGENÆ, OR DICOTYLEDONEÆ.




NATURAL ORDER, APOCYNACEÆ.

CORROLIFLORÆ, OF DECANDOLLE.




PENTANDRIA, *MONOGYNIA*, OF LINNEUS.

No. 123.

GENUS. Allamanda. *Linnæus.* Calyx quinquepartitus. Corolla infundibuliformis, tubo cylindrico, fauce squamis quinque ciliatis aucta, limbi quinquefidi campanulati ampli laciniis obtusis subinæqualibus. Stamina quinque, corollæ fauci inserta, inclusa, antheris sagittatis subsessilibus conniventibus. Ovarium uniloculare compressum. Ovula in placenta marginali ambiente plurima, e funiculis longiusculis pendula. Capsula coriacea, elliptica, compressa, echinata, unilocularis, bivalvis. Semina plurima, ala membranacea cincta. Frutices vel suffrutices Americæ tropicæ, erecti vel scandentes. Folia verticillata. Pedunculi terminales et interpetiolares multiflori. Flores speciosi lutei. *Endlicher:* Genera Plantarum, p. 579.

SPECIES. Allamanda cathartica. *Linneus.* Foliis subquaternis oblongis acuminatis glaberrimis.

Character of the Genus, Allamanda. Calyx five-cleft. Corolla funnel-shaped, the tube cylindrical, the throat furnished inside with five hairy scales, the limb five-cleft, very large, bell-shaped, the divisions blunt and slightly unequal. Stamens five, included within the throat of the corolla where they are attached, the anthers dart-shaped, nearly sessile, and connivent. Ovary one-celled, compressed. Ovules several, attached to a marginal placenta, hanging from a long funiculus. Capsule coriaceous, elliptical, compressed, prickly, one-celled, two-valved. Seeds several, surrounded with a membranous wing.

Description of the Species, Allamanda cathartica. Stem climbing, smooth, nearly cylindrical. Leaves four in a whorl, oblong, three to four inches long, usually broader above the middle, and ending in a broad blunt point, narrowed at the base into a short footstalk, leathery, smooth on both sides, shining on the upper surface. Peduncles terminal or interpetiolar, one to three-flowered and short, or sometimes lengthened and bearing a greater number. Calyx with lanceolate green divisions, four or five lines long. Corolla very large and yellow, the tube slender, about an inch long, the limb forming a broad irregular bell about two inches long. In the throat

are inserted five lanceolate, pointed, somewhat dart-shaped ANTHERS, and immediately below them, five short double squamæ, covered with short hairs.

POPULAR AND GEOGRAPHICAL NOTICE. This plant was early known to the naturalists who attended to West Indian Botany, on account of the strong medical properties it has always been supposed to possess. It was first brought from the southern West Indian Islands and Guiana, and various plants resembling the original one having been gathered from the South American Continent as far down as Rio Janeiro, it was supposed that they were all varieties of one species, till Pohl, in his Icones, distinguished them, figuring three which he considered as entirely new, and giving amended characters for the older ones. According to him, the West Indian plant, (which is here described from specimens gathered in St. Vincent's) with perfectly glabrous leaves and stems, is distinct from Aublet's Cayenne Orelia, which has the young branches slightly hairy as well as the under side of the leaves, a character to which the Cayenne specimens scarcely warrant our attaching much importance. It is even matter of great doubt whether Allamanda Schottia of Pohl, should not also be joined, notwithstanding the erect stem attributed to it. The Allamanda œnotheræfolia and angustifolia, and a new species gathered in the mountains of Bahia by Mr. Blanchet, must, however, be adopted, and it is probable that others may yet be discovered. None have been found beyond the limits of the above-mentioned countries. G. B.

INTRODUCTION; WHERE GROWN; CULTURE. The Allamanda cathartica was introduced in 1785, by Baron Hake, from Guiana, and raised in the Royal Gardens at Kew, where it has continued to be grown, and where our drawing was made last summer. It requires the hothouse, to which, however, if badly grown, it may not be thought so splendid an ornament as some others, though if made to flower abundantly it proves very handsome. It should be potted in a rich light loam.

### DERIVATION OF THE NAMES.

ALLAMANDA, named in honour of Dr. F. Allamand, a professor of Leyden, who wrote on its medicinal properties. CATHARTICA, purgative.

### SYNONYMES.

ALLAMANDA CATHARTICA. Linnæus: Mantissa, p. 214. Botanical Magazine, t. 338.

ALLAMANDA LINNÆI. Pohl Icones, v. 1, p. 74.

ALLAMANDA AUBLETII? probably a variety, Pohl, p. 75.

*Cuphea formosa*

# COR'REA FERRUGI'NEA.

## RUSTY CORREA.

EXOGENÆ, OR DICOTYLEDONEÆ.

{ Natural division to which this Plant belongs. }

## NATURAL ORDER, RUTACEÆ.

THALAMIFLORÆ, OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }

OCTANDRIA. MONOGYNIA, OF LINNEUS.

No 124.

GENUS. Correa. *Smith.* Calyx cupuliformis, subinteger aut quadrilobus. Petala quatuor, valvatim in tubum approximata partimve coalita. Stamina octo, petalis æqualia aut exserta, quatuor breviora iisdem opposita, filamentis glabris subulatis aut supra basim dilatatis, antheris oblongis. Ovaria quatuor, imposita gynophoro brevi in ambitu staminifero et quasi octolobo, dense stellatim pilosa. Styli quatuor in unum coaliti, stigmate æquali quadrilobo terminatum. Fructus quadri-capsularis. Frutices. Folia opposita, simplicia, integra. Flores in ramulis axillaribus pedunculiformibus terminales. Ramuli, folia et flores, pube stellata dense congesta tomentosa.

SPECIES. Correa ferruginea. *Hooker.* Foliis ovato-lanceolatis obtusissimis in petiolum angustatis integerrimis, supra viridibus glaberrimis lævibus impresso-punctatis, subtus stellato-tomentosis ferrugineis, floribus solitariis ad ternos terminalibus cylindraceis pendulis, dentibus calycinis acutis, staminibus longe exsertis.

Character of the Genus, Correa. Calyx cup-shaped, nearly entire, or four-cleft. Petals four, arranged in the manner of valves, either close together or joined in part into an apparently monopetalous corolla. Stamens eight, equal to the petals or longer, four of them opposite to the petals, being shorter than the others, the filaments smooth and filiform or dilated above the base, the anthers oblong. Ovaries four, placed on a short stalk which bears the stamens on its circumference, where it is as if eight-lobed, and covered with thick stellate hairs. Styles four, joined into a single one which terminates in a regular four-cleft stigma. Fruit consisting of four capsules.

Description of the Species, Correa ferruginea. Shrub, with the young branches thickly covered with a dense brown-red down, formed of numerous short stellate hairs, thickly matted together. Leaves opposite, from one to two or three inches long, ovate-lanceolate, or oval-oblong, blunt, quite entire, but irregular on the margins, borne on short foot-stalks, the upper surface green and quite smooth, the

under side marked with a prominent midrib and covered with a rusty down, similar to that on the stems. FLOWERS solitary, drooping, borne on short stalks at the end of short axillary branches, bearing one or two leaves. CALYX very short, in the form of a broad cup, with four very small somewhat sharpish teeth. COROLLA about three quarters of an inch long, the petals joined to near the top into a tube rather broader towards the mouth, with four broad ovate lobes. STAMENS projecting at least a quarter of an inch beyond the corolla.

POPULAR AND GEOGRAPHICAL NOTICE. The genus Correa is strictly Australian, being found all along the southern portion of that continent, and in Van Diemen's Land. It is singular as affording an instance of apparently monopetalous corollas, in a natural Order in which the flower is essentially polypetalous. The elegant manner in which these flowers hang, the good colouring and size of them in many species, attracted the notice of the first collectors in their native country, and some species have now been long in cultivation. The operation of hybridizing has even been practised on them with success, and new forms are frequently springing up in our collections. The present species, however, is a genuine native of Van Diemen's Land, and was first described by Sir William Hooker, from wild specimens, as a remarkable and distinct species, under the name given to it by its discoverer, Major Gunn. Though not so brilliant in colouring as some others, its foliage is elegant, and it may be considered as a valuable acquisition.

INTRODUCTION; WHERE GROWN; CULTURE. We have no specific information, regarding the year in which this greenhouse novelty was introduced to Great Britain, but we believe it took place in 1836. Our drawing was made in the Autumn of 1838, from a plant in her Majesty's garden at Kew, where are many other subjects of peculiar interest, which, under the present management of that establishment, are meeting the careful attention which they deserve. Well-ripened cuttings may be struck in sand, under a bell-glass, with bottom heat. When rooted, they should be planted in a mixture of peat and loam. One species—Correa alba, proves to be hardy.

### DERIVATION OF THE NAMES.

CORREA, named by the late Sir James Edward Smith, in honour of M. Correa de Serra, a Portugese Botanist. FERRUGINEA, rusty coloured.

### SYNONYMES.

CORREA FERRUGINEA. Hooker: Companion to Bot. Mag. v. 1, p. 276.

*Wilsonia c Maura.*

# WITSE'NIA MAU'RA.

## DOWNY-FLOWERED WITSENIA.

ENDOGENÆ, OR MONOCOTYLEDONEÆ.

{ Natural division to which this plant belongs. }

NATURAL ORDER, IRIDACEÆ.

EPIGYNOSÆ OF LINDLEY.

{ Artificial divisions to which this Plant belongs. }

TRIANDRIA, MONOGYNIA, OF LINNEUS.

No. 125.

GENUS. Witsenia. *Thunberg.* Perigonium corollinum superum vel semisuperum tubulosum, limbi sexfidi laciniis æqualibus patentibus vel conniventibus. Stamina tria, perigonii fauci inserta, inclusa, filamenta filiformia brevissima, antheræ sagittatæ basifixæ. Ovarium inferum vel semi-inferum, obsolete trigonum, triloculare. Ovula plurima, in loculorum angulo centrali biseriata. Stylus filiformis exsertus. Stigma tridentatum vel brevissime trifidum. Capsula cartilaginea ovato-trigona trilocularis loculicide trivalvis. Semina plurima angulata. Suffrutices Capenses, radice tuberosa, caudice ligneseente ancipiti, foliis ensatis, scapo herbaceo, spathis diphyllis unifloris. *Endlicher:* Genera Plantarum, p. 167.

SPECIES. Witsenia maura. *Thunberg.* Spathis geminatis, perigonii limbo connivente, laciniis tribus externis dorso hirsutis.

Character of the Genus, Witsenia. Perigon of the consistence of a corolla, superior or semi-superior, tubular, the limb six-cleft, the divisions equal, spreading or connivent. Stamens three, inserted in the throat of the perigon; the filaments very short and filiform, the anthers dart-shaped, fixed by their base. Ovary inferior or semi-inferior, obsoletely three-angled, three-celled. Ovules several, arranged in double rows along the central angle. Style filiform, longer than the corolla. Stigma three-toothed or very shortly three-cleft. Capsule cartilaginous, three-angled, three-celled, three-valved. Seeds several, angled.

Description of the Species, Witsenia maura. Shrub, from two to five feet high, the stem divided. Leaves clasping the stem, distichous, ensate, pointed, striate, glaucous, numerous on the upper part of the stem, six inches or more in length. Spike terminal, shorter than the leaves. Spathe one-flowered, almost sessile in the axil of a lanceolate keeled bractea; each spathe consists of two valves about an inch and a half long, bifid at the top and inclosed at the base in three or four spathiform imbricate bracts, of which the

outer ones are very short and the inner ones about half the length of the spathe. Corolla from two to two and a half inches in length, cylindrical, club-shaped; the tube green, smooth, slightly dilated towards the top, where it is darkly coloured; the limb yellow, connivent, the outer divisions lanceolate, blunt, thick, and downy outside, the inner ones rather shorter and smooth, and greenish, with the exception of a short, round, yellow tuft at the top. Filaments short; anthers included in the corolla, sagittate, rather longer than the filaments. Ovary adherent throughout the greater part of its length, free at the top.

Popular and Geographical Notice. The Witsenias, remarkable among Cape Iridaceæ by their shrubby growth, attracted early the attention of botanical collectors in that rich and interesting country, and the three species hitherto known being found at no great distance from the capital, in the mountains to the eastward, they have long since found their way into our gardens, although the species here figured has always remained scarce, especially in flower. The peculiar foliage points out at once their analogy to the herbaceous Iridaceæ, with which they agree perfectly in the structure of the flower, thus showing that the very natural character of this extensive Order is not impaired by so great a difference in the texture and duration of the stem. G. B.

Introduction; Where grown; Culture. This handsome plant was first introduced by Mr. Masson, in the year 1790, but appears not to have flowered until 1815, when Mr. Bellenden Ker gave a detailed description of it in the first volume of the Botanical Register. We are indebted to the kindness of the Messrs Rollisson, of Tooting, for the opportunity of figuring this interesting plant, in whose nursery it was drawn in the month of April. Hitherto it has not frequently flowered, a circumstancce, perhaps, attributable to its being grown under too regular a stimulus. A season of rest, accompanied by the privation of moisture to a considerable degree, would probably induce a regular flowering. It grows freely in sandy peat, mixed with a little loam, and may be kept in a cool greenhouse, or even in a cold frame with ample protection from frost.

### Derivation of the Names.

Witsenia, in honour of a Dutch patron of botany of the name of Witsen.
Maura, Mauritanian, a term used by some of the early botanists as a synonyme for African.

### Synonyme.

Witsenia maura. Thunberg's Dissertations Nova Genera, p. 34. Redouté Liliacées, t. 245. Botanical Register, vol. 1, t. 5.

Clematis azurea Pursh

# CLEMA'TIS CÆRU'LEA.

## VIOLET-COLOURED CLEMATIS.

EXOGENÆ, OR DICOTYLEDONEÆ.

{ Natural division to which this Plant belongs. }

NATURAL ORDER, RANUNCULACEÆ.

THALAMIFLORÆ, OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }

POLYANDRIA. POLYGYNIA, OF LINNEUS.

No. 126.

GENUS. CLEMATIS. *LINNÆUS.* INVOLUCRUM nullum aut calyciforme sub flore. SEPALA quatuor vel octo, colorata, æstivatione valvata aut induplicata. PETALA nulla aut sepalis breviora. CARYOPSIDES plurimæ, stipite proprio destitutæ, in caudam sæpius barbato-plumosam productæ. HERBÆ fruticesve sæpius scandentes, foliis oppositis sæpius dissectis, pedunculis axillaribus vel terminalibus, unifloris plurifloris*ve*. *DECANDOLLE:* Systema, v. 1, p. 131.

SPECIES. CLEMATIS CÆRULEA. *SIEBOLD.* CAULE scandente, foliis ternatim pinnatimve sectis, segmentis petiolulatis ovato-lanceolatis acutis basi cuneatis pilosulis, pedunculis axillaribus unifloris, floribus amplis, sepalis sex ad octo anguste-oblongis extus medio pubescentibus staminibus triplo quadruplove longioribus.

CHARACTER OF THE GENUS, CLEMATIS. INVOLUCRE none, or calyx-like under the flower. SEPALS four or eight, coloured, valvate, or folded inwards longitudinally in the bud. PETALS none, or much shorter than the sepals. FRUIT consisting of several caryopsides, without any partial stalks, and ending in a tail which is usually feathered or bearded.

DESCRIPTION OF THE SPECIES, CLEMATIS CÆRULEA. STEM slender, climbing, slightly hairy. LEAVES opposite, with long footstalks, ternately or pinnately divided, with three to five opposite segments, each segment borne on a long partial footstalk, ovate or ovate-lanceolate, pointed; entire but wavy on the margin, contracted or wedge-shaped at the base, of a bright green, very shining underneath, with short hairs scattered on the under surface and arranged along the veins on the upper side; the foot-stalks are also more or less hairy. PEDUNCLES long, one-flowered, without any bracts or involucre, spreading, green, with a few hairs, especially under the flower. FLOWER, in the variety here figured, near seven inches in diameter. SEPALS spreading, usually eight in number, narrow oblong, somewhat keel-shaped, waved on the margin, terminating in a short slender point, narrowed at the base, of a delicate lilac colour and perfectly smooth above, hairy and greenish on the under side along the centre, where are three somewhat prominent veins; where the number of sepals is

fewer than eight some of them are broader or sometimes bifid, showing that they are formed by the union of two. STAMENS very numerous, scarcely above one-fourth the length of the sepals, with purple linear anthers. STYLES very numerous, the yellow stigmas slightly out-topping the stamens.

POPULAR AND GEOGRAPHICAL NOTICE. Of all the novelties introduced from Japan, by Dr. Siebold, and already several times alluded to in the present work, the subject of this plate is perhaps one of the loveliest. A hardy, slender, free-growing climber is always valuable, and is rendered doubly so when it bears a number of flowers of a most delicate blue, and nearly seven inches in diameter. In respect to size it appears, however, to be variable; the dimensions here given were taken from a specimen exhibited at the Horticultural Society's Rooms by the Messrs. Rollisson, whilst the one figured in the Botanical Register had flowers not much above half the size, and with only six sepals, amongst which, however, two being much broader, and split at the apex, showed their double nature. In all cases this species is, at any rate, the largest flowering in a very numerous genus. Some species of Clematis are to be met with in almost every climate and country without the arctic regions, and although they may generally be said to prefer temperate and moderately warm regions, yet there are several species even within the tropics. The North American and European ones are well known amongst our old established hardy climbers. The dried specimens of East Indian species show that there are among them many which would be preferable, but Dr. Siebold's importation evidently proves that Japan is the country where they are in the greatest beauty. G. B.

INTRODUCTION; WHERE GROWN; CULTURE. Introduced in the year 1836, from Holland, where this species had been raised by Dr. Siebold. The Clematis cærulea has been so much in demand, that it is even now to be found in but few collections of nurserymen. Our drawing was made at Messrs. Rollisson's of Tooting, who, it is believed, were among the first to import it, and have propagated it to as great an extent as they were enabled to do. It is perfectly hardy, having borne, without injury, in the open ground, the severe winter of 1837-8. It flowers in May and June.

DERIVATION OF THE NAMES.

CLEMATIS, a Greek name of Dioscorides. CÆRULEA, blue.

SYNONYME.

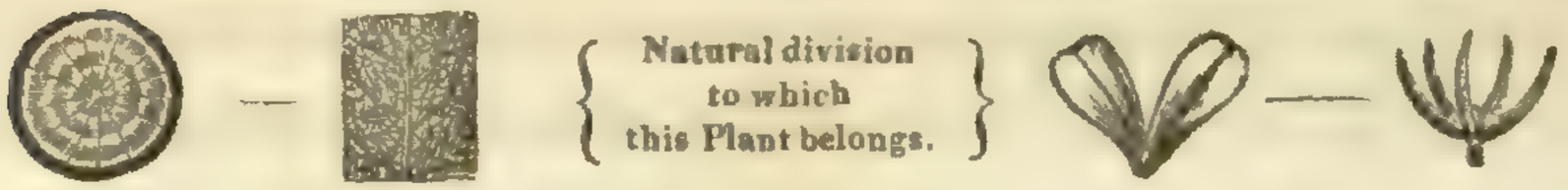
CLEMATIS CÆRULEA. Botanical Register, t. 1955. Distinguished in the gardens as the variety of Grandiflora.

*Jacquinia macrocarpa.*

# JACQUI'NIA MACROCAR'PA.

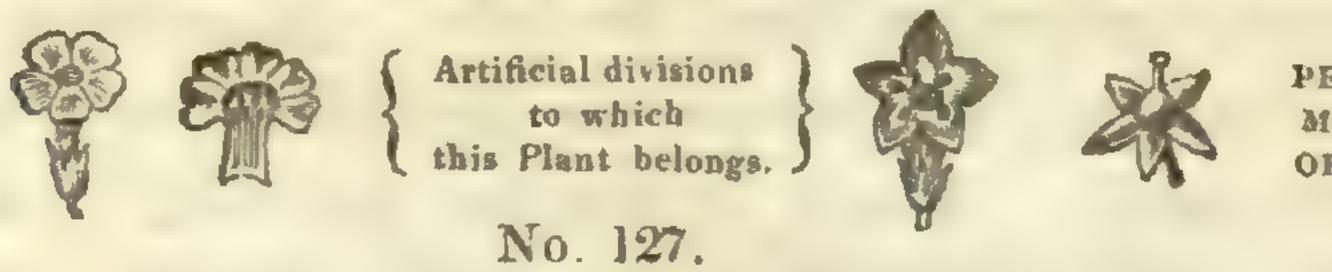
## LARGE CAPSULED JACQUINIA.

EXOGENÆ, OR DICOTYLEDONEÆ.




NATURAL ORDER, MYRSINACEÆ.

COROLLIFLORÆ, OF DECANDOLLE.




PENTANDRIA, *MONOGYNIA*, OF LINNEUS.

No. 127.

GENUS. Jacquinia. *Linnæus.* Calyx quinquefidus, persistens. Corolla hypogyna, monopetala, quinquefida, æqualis. Stamina quinque, laciniis corollæ opposita, supra basim tubi inserta, filamentis distinctis basi latioribus; quinque sterilia petaloidea alterna, ad basim corollæ laciniarum inserta. Antheræ basifixæ, biloculares, extrorsum longitudinaliter dehiscentes. Ovarium uniloculare, ovulis numerosis peltatis placentæ centrali liberæ affixis. Stylus brevis. Stigma indivisum, capitatum. Bacca subcoriacea, polysperma. Semina depresso-planiuscula, obovata, hilo faciali. Embryo in albumine corneo hilo parallelus, rectus v parum curvatus. Arbores vel frutices Americæ tropicæ. Folia alterna, integerima, coriacea. Flores in racemis terminalibus disposita.

SPECIES. Jacquinia macrocarpa. *Cavanilles.* Foliis oblongo vel lanceolato-cuneiformibus aristato-mucronatis, antheris e tubo corollæ exsertis.

Character of the Genus, Jacquinia. Calyx five-cleft, persistent. Corolla hypogynous, monopetalous, five-cleft, equal. Stamens five, opposite the divisions of the corolla, inserted in the tube above its base; the filaments free but dilated at the base; five sterile petaloid filaments alternating with them and placed at the base of the divisions of the corolla. Anthers fixed at their base, opening outwards by longitudinal fissures. Ovary one-celled, with many peltate ovules affixed to a thick fleshy placenta. Style short. Stigma undivided, capitate. Berry almost leathery, several-seeded. Seeds depressed and rather flat, obovate, with a large hilum on one face. Embryo straight or a little curved, parallel to the hilum, in a horny albumen.

Description of the Species, Jacquinia macrocarpa. Shrub or little tree of eight or ten feet high, with a reddish bark. Leaves alternate or scattered, crowded at the tops of the branches, oblong or lanceolate, or somewhat wedge-shaped, two or three inches long, with a sharp pungent point, quite entire and thickened on the margins, narrowed at the base into a very short petiole, coriaceous, and obscurely marked with very minute pellucid dots. Flowers in short racemes at the ends of the branches, each one borne on a pedicel

rather longer than the calyx. Calyx very short, the divisions rounded and obliquely overlapping each other by their membranous margins. Corolla of a rich orange; the tube about twice the length of the calyx; the limb of five oval convex and revolutely spreading divisions, between which are placed the sterile petaloid stamens, having the appearance of five inner and smaller divisions of the corolla. Stamens slightly projecting from the tube; the anthers ovate, heart-shaped at the base; the connectivum projecting above the cells into a short blunt point. Ovary terminating gradually in a style rather shorter than itself. Stigma small, simple. Fruit a kind of berry, about nine or ten lines in diameter, with a thick leathery rind, which becomes almost woody in drying, of an orange colour, with a few dark brown seeds about three lines long, lying upon a large fleshy placenta.

Popular and Geographical Notice. This genus appears to be confined to tropical America, and especially to the West Indies and Spanish Main, for it is probably owing to a garden mistake that the present species has been said to have been also brought from the Sandwich Islands. It is curious that so remarkable a mistake should have been made by so many authors in describing the ovarium as one-ovulated, and the fruit as monospermous, which induced them to place it in Sapotaceæ instead of Myrsinaceæ, although Brown, in his Prodromus, had long since indicated its true structure and affinities. There are but few species, the most remarkable of which, the Jacquinia armillaris, is known in the French islands by the name of Bracelet wood, it being the custom of the inhabitants to string its shining brown and yellow seeds into bracelets. The flowers of some species have a very sweet smell. G B.

Introduction; Where grown; Culture. A stove plant, long since introduced into continental collections, from whence it probably found its way into ours, although it is said to have been received into the Kew collection through Mr. Menzies, from the Sandwich Islands. Our drawing was made from the specimen at the Kew Garden. Cuttings of this interesting shrub may be struck under glass, in clean white sand, with bottom heat. Soil, peat and loam.

### Derivation of the Names.

Jacquinia, named by Linneus after the celebrated Austrian botanist, the elder Jacquin. Macrocarpa, large-fruited.

### Synonymes.

Jacquinia macrocarpa, Cavanilles, Icones Plantarum, v. 5, p. 55, t. 483.
Jacquinia aurantiaca, Hortus Kewensis, 2nd Edit. v. 2, p. 6. Botanical Magazine, t. 1639.

Vr. Miller del.

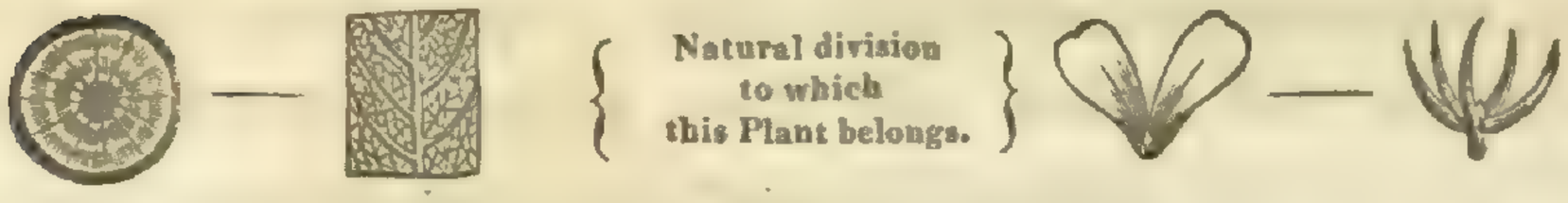
*Coreopsis chrysanthemoides*

Nevill. sculp.

# OXYU'RA CHRYSANTHEMOI'DES.

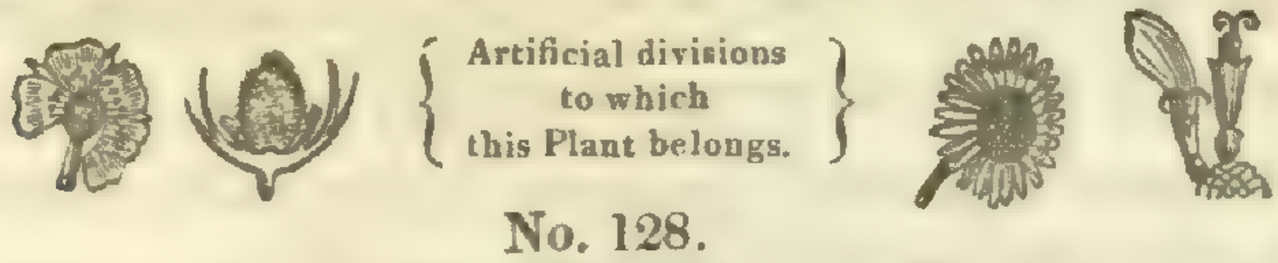
## CHRYSANTHEMUM-LIKE OXYURA.

EXOGENÆ. OR DICOTYLEDONEÆ.




NATURAL ORDER, COMPOSITÆ.

CALYCIFLORÆ, OF DECANDOLLE.




SYNGENESIA, SUPERFLUA, OF LINNEUS.

No. 128.

GENUS. Oxyura. *Decandolle.* Capitulum multiflorum radiatum, ligulis decem ad duodecim uniserialibus fæmineis, flosculis disci tubulosis quinque dentatis bisexualibus, centralibus plurimis abortivis. Involucri squamæ uniseriales, basi rigide ciliatæ convolutæ et achenia radii omnino involventes, superne in appendicem foliaceam productæ. Receptaculum totum paleis membranaceis inter flores onustum. Ligulæ basi pubentes apice grosse dentatæ. Tubuli obcompressi ad lobulos pubentes. Antheræ nigricantes. Styli disci rami in appendicem hispidam acutissimam producti. Achænia omnia obcompressa obovato-oblonga glabra calva, centralia sæpe abortiva. *Decandolle:* Prodromus, v. 5, p. 693.

SPECIES. Oxyura chrysanthemoides. *Decandolle.* Herba annua, caule tereti glabro, foliis alternis ciliatis pinnatifidis integrisve, capitulis ramulos apice nudiusculos hirsutos terminantibus, bracteis paucis ciliatis.

Character of the Genus, Oxyura. Head of many flowers, radiate, the ligulæ from ten to twelve, female, and arranged in one row, the florets of the disk tubular, five-toothed, bisexual, several in the centre sterile. Involucre of a single row of squamæ, stiff, ciliate, convolute, and inclosing the achenia of the ray at the base, produced above into a foliaceous appendage. Receptacle entirely covered with membranous paleæ placed between the florets. Florets of the ray downy at the base, coarsely toothed at the end; those of the disk compressed, pubescent up to the teeth. Anthers becoming black. Branches of the Style of the disk, terminated in a very sharp hispid appendage. Achænia all obcompressed, obovate-oblong, glabrous, without any pappus, the central ones often abortive.

Description of the Species, Oxyura Chrysanthemoides. Stem annual, a foot to a foot and half high, decumbent at the base; smooth, branching, and ascending or erect, and slightly pubescent at the top. Leaves alternate, stem-clasping, lanceolate, some of them quite entire, others more or less deeply pinnatifid, usually ciliate on the margins, and slightly scabrous or pubescent on the upper surface. Peduncles terminating the branches, from two to three inches above the last leaf, pubescent. Head of flowers solitary, about the size of the corn marigold. Involucre hemispherical, the

leaflets shorter than the ray, very hispid on the lower part which encircles the seed, and terminating in a lanceolate, rather blunt, foliaceous, and scabrous appendage. FLORETS of the ray yellow, oblong, wedge-shaped, ending in three unequal lobes almost white; those of the disk yellow, with black anthers. ACHÆNIA obcompressed, of a shining black, without any trace of a pappus; those of the ray as well as the central ones sometimes, but not always, abortive.

POPULAR AND GEOGRAPHICAL NOTICE. This, the only species of the genus, belongs to a small group of Compositæ, called Madieæ, all natives of California, or the adjoining north-west coast, one species only being also found in Chili. Though widely differing in many particulars of importance, their genera are connected together by a certain resemblance in appearance, and by the circumstance that the outer achenia, always without a pappus, are enveloped in the leaflets of the involucrum. As no very high importance is usually attached to this character, Professor De Candolle observes, in a note to his Prodromus, that these genera ought strictly to be divided amongst other tribes of Senecionideæ, and that Oxyura in particular, should, with Madia, be referred to Heliopsideæ, but that in natural as well as in civil ordinances the strictest justice is often the greatest wrong. The same remark may be, in the case of this and several other Senecionideæ, applied to the style, the modifications of which are now considered by many as absolute characters of the different great divisions of Compositæ; and yet we have here, as near as words can express it, exactly the style of Vernoniaceæ, with which no one would think of uniting Oxyura. G. B.

INTRODUCTION; WHERE GROWN; CULTURE. This is one of the numerous hardy ornamental plants introduced by the Horticultural Society, through their late indefatigable collector, Mr. Douglas. It is an annual of early growth and pleasing appearance, when raised in masses, though certainly not more handsome than many of our own neglected annuals, which, however properly rejected from our cornfields, would be great ornaments to our garden if carefully sown in large masses. Our drawing was made in the Horticultural Society's Garden. It requires but the care demanded by annuals generally.

### DERIVATION OF THE NAMES.

OXYURA, *οξυς* sharp, and *ουρα* a tail, in allusion to the sharp appendages, as they are called, to the branches of the style, although in fact these appendages constitute the whole of the branches. CHRYSANTHEMOIDES, chrysanthemum-like.

### SYNONYMES.

OXYURA CHRYSANTHEMOIDES. De Candolle: Prodromus, v. 5, p. 693. Botanical Register, t. 1850.

*Verbena Chamaedrifolia*

Mills del

# VERBE'NA CHAMÆDRIFO'LIA.

## VERONICA-LEAVED VERBENA.

EXOGENÆ, OR DICOTYLEDONEÆ.

{ Natural division to which this Plant belongs. }

## NATURAL ORDER, VERBENACEÆ.

COROLLIFLORÆ, OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }

DIDYNAMIA, ANGIOSPERMIA. OF LINNEUS.

No. 129.

GENUS. VERBENA. *LINNÆUS.* CALYX tubulosus, quadri-quinque-dentatus. COROLLA tubo cylindrico recto vel incurvo, limbo quinquefido patente inæquali. STAMINA quatuor, tubo inclusa, didynama. OVARIUM quadriloculare, ovulis solitariis erectis basifixis. FRUCTUS siccus, drupaceus, quadrilocularis, quadripartibilis. EMBRYONIS exalbuminosi radicula infera. HERBÆ suffruticesve, in variis regionibus diffusi. FOLIA opposita. SPICÆ axillares vel terminales, simplices vel paniculato-ramosæ, floribus sessilibus bracteatis.

SPECIES. VERBENA CHAMÆDRIFOLIA. *JUSSIEU.* Procumbens vel adscendens, piloso-hispida, foliis breviter petiolatis oblongo-lanceolatis grosse serratis, corymbis pedunculatis multifloris, bracteis brevibus subulato-lanceolatis, calycibus tubulosis hispidis, corollæ tubo calyce duplo longiore, laciniis cuneatis emarginato-bifidis.

CHARACTER OF THE GENUS, VERBENA. CALYX tubular, with four or five short teeth. COROLLA with a cylindrical tube, straight or curved; the limb spreading, unequally five-cleft. STAMENS four, inclosed in the tube, didynamous. OVARY four-celled; the ovules solitary, erect, fixed by their base to the bottom of the cells. FRUIT a dry drupe, with four one-seeded cells, and separable into four parts. EMBRYO without albumen, and with the radicle inferior.

DESCRIPTION OF THE SPECIES, VERBENA CHAMÆDRIFOLIA. STEM procumbent, sometimes trailing along the ground and rooting at the joints, sometimes ascending but never upright, covered with short rough spreading or reflexed hairs. LEAVES borne on very short stalks, oblong-lanceolate, pointed, bordered with coarse irregular teeth, rounded or more frequently wedge-shaped at the base; one to two inches long, rough, somewhat hairy and green on both sides. FLOWER-SPIKE borne on a long hispid peduncle which is at first terminal but becomes lateral by the elongation of the stem, contracted into a sort of corymb. FLOWERS sessile in the axilla of a short pointed bractea; the lower ones often opposite, the upper ones alternate. CALYX narrow, tubular, about five lines long, angular, hairy, terminating in five minute teeth, rather swollen at the base as the fruit ripens. COROLLA with a yellowish green tube about twice the length of the calyx; the limb spreading, of a rich scarlet in the ordinary variety, a brilliant crimson

in the present one, divided into five wedge-shaped emarginate lobes, of which the two upper are rather shorter.

Popular and Geographical Notice. The extensive genus Verbena, found in almost every temperate or warm region of the globe, is particularly abundant in America, from whence are derived also all those species which have any pretension to ornament. The Verveins in the old world are, indeed, only known as common, unsightly, roadside weeds, whilst their brethren from South America are now one of the greatest attractions of our flower gardens in summer and autumn. Amongst them the Chamædrifolia and Tweediana with their numerous varieties and hybrids are the most conspicuous, especially the crimson variety here figured, to which the name Elfordiana has been given, on account of its having been raised at Elford, as stated below. Some growers appear to consider it as a distinct species, but a comparison with the numerous states of the true Chamædrifolia shows that there is nothing but colour to distinguish it, and that alone does not afford a specific character. Its somewhat larger and less trailing growth is to be met with in many individuals of the original Chamædrifolia, and, indeed, it is the gardener alone and not the botanist that can separate them as marked varieties. Even Tweediana, admitted as a species by botanists, comes so near, also, to Chamædrifolia in some of its numerous forms, that it is sometimes difficult to draw a positive line between them. This is, however, of little consequence to the gardener, whose main object is to produce variety in appearance, and in this point of view the subject of this article is a new and valuable acquisition. G. B.

Introduction; Where grown; Culture. Both the varieties here figured, were raised in the garden of the Hon. Col. Howard, of Elford, Staffordshire, from seeds brought from Monte Video by the Hon. Edward Upton, in 1837. We have been favoured with a plant of each by Mr. Buck, the intelligent gardener at Elford. That which we have called Elfordiana has the most brilliant crimson flowers we have met with; and Mr. Buck says is a more abundant flowerer than either of the lately introduced species. The colour of the flowers of the second seedling given in our plate, is clearer unmixed scarlet than the original chamædrifolia, and its foliage much brighter and more abundant. Both these beautiful varieties are possessed by the Messrs. Pope, of the Handsworth Nursery. They require but the usual treatment of the allied species.

### Derivation of the Names.

Verbena, from the supposition that our common Vervein might be the Verbena or sacred plant of the ancients. Chamædrifolia, with leaves like those of the Veronica Chamædrys.

### Synonymes.

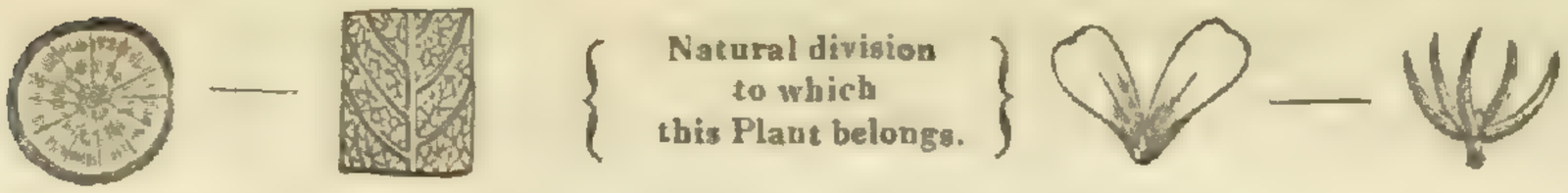
Verbena chamædrifolia. Jussieu: Annales du Museum, v. 7, p. 73. British Flower Garden, 2nd Ser. t. 9. Botanical Magazine, t 3333.

Verbena Melindres. Gillies: Botanical Register, t. 1184.

# HO'VEA CHOROZEMÆFO'LIA.

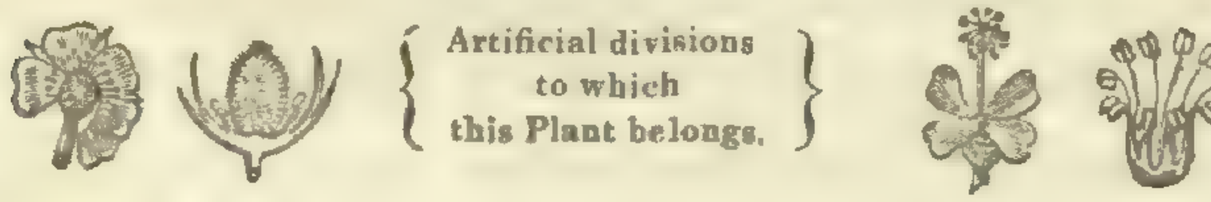
## CHOROZEMA-LEAVED HOVEA.

EXOGENÆ. OR DICOTYLEDONEÆ.




NATURAL ORDER, LEGUMINO SÆ.

CALYCIFLORÆ, OF DECANDOLLE.




MONADELPHIA. DECANDRIA, OF LINNEUS.

No. 130.

GENUS. Hovea. *R. Brown.* Calyx bilabiatus, labio superiore lato retuso vel semibifido inferiore minore tripartito. Vexillum explanatum. Alæ oblongæ vexillo breviores, carina obtusa longiores. Stamina omnia convexa vel decimo plus minusve libero, vagina antice vel utrinque fissa. Antheræ alternæ ovatæ medifixæ, alternæ oblongæ adnatæ. Ovarium bi- vél tri- ovulatum. Stylus adscendens, filiformis, glaber. Stigma obtusum, nudum. Legumen subrotundum obliquum ventricosum. Semina strophiolata. Suffrutices fruticesve Australasici. Folia alterna, simplicia. Flores axillares purpurei aut violacei.

SPEIES. Hovea chorozemæfolia. *Decandolle.* Foliis ovatis oblongisve sinuato-spinosis mucronatis coriaceis glabris, stipulis acerosis, calycibus villosis, leguminibus subsessilibus glabris.

Character of the Genus, Hovea. Calyx two-lipped, the upper lip broad, retuse, or semibifid; the lower much smaller and three-cleft. Standard spreading. Wings oblong, shorter than the standard, longer than the blunt keel. Stamens all united, or the tenth more or less free; the tube split in front, or front and back. Anthers alternately oval and versatile, oblong and adnate. Ovary with two or three ovules. Style ascending, filiform, smooth. Stigma blunt, naked. Pod roundish, oblique, swollen. Seeds with a strophiola.

Description of the Species, Hovea chorozemæfolia. Stem shrubby, erect or ascending, the younger branches hairy. Leaves alternate, nearly sessile, varying from oval to oblong, or even lanceolate, stiff and leathery, with a thickened sinuate margin, more or less irregularly bordered with short prickles; occasionally, however, very nearly entire, smooth on both sides. Flowers borne on short axillary pedicels, sometimes two or three only in each axil, often as many as six or eight, forming a very short raceme. Stipules, Bracts, and Bracteolæ from one to two lines long, smooth and pungent. Calyx hairy, incurved, the upper lip very broad and truncate, slightly emarginate, the outer corners projecting horizontally into a short point; lower divisions narrow, pointed, rather shorter than the upper lip.

Corolla blue. Stamens usually completely diadelphous. Ovary perfectly smooth. Pod sessile, or nearly so; broader than it is long, and very oblique, perfectly smooth.

Popular and Geographical Notice. The geographical range of the genus Hovea will shortly be stated under Hovea pungens. This species is one upon which Sweet, in the Flora Australasica, established a genus which he called Plagiolobium; distinguishing it from Hovea by the tenth stamen being entirely free from the others, as well as by the shorter and more oblique pod; but the former of these characters is very uncertain in several species of Hovea, and the obliquity of the pod is more or less observable in all; and if this plant be compared with Hovea Celsi and some others, it will be readily acknowledged that there is nothing in the habit to distinguish it generically. Sweet added, in a note, a second species, which he called Ilicifolia, a name frequently given in our gardens to Hovea chorozemæfolia, but we have never seen either cultivated or wild specimens having the hairy pod mentioned by Sweet, and we presume, therefore, that unless the pod and leaf seen by him were mismatched, this Plagiolobium ilicifolium is not frequent about King George's Sound. The specimens named Hovea ilicifolia by Mr. Cunningham, are all referable to the present species. G. B.

Introduction; Where grown; Culture. The Hovea chorozemæfolia was first raised from seeds, collected by Mr. Bagster at King George's Sound, and flowered in 1827. It has since been transmitted by others, and is not uncommon in our collections. It is of great beauty when well flowered; indeed, the spiny-toothed glabrous foliage of this shrub makes it ornamental, independently of its blossoms. Our drawing was made in March, from a plant belonging to G. Glenney, Esq. of Worton Lodge. Although this plant succeeds best near the glass in an open part of the greenhouse, full exposure to summer showers does it injury. Its soil should be sandy peat and loam. Cuttings strike root slowly in sand; the best plants are raised from seeds

### Derivation of the Names.

Hovea, in honour of Anthony Pantaleone Hove, collector for the Kew Gardens, who introduced various Persian and Crimean plants. Chorozemæfolia, with leaves like those of the Chorozema ilicifolia.

### Synonymes.

Hovea chorozemæfolia. *Decandolle*: Prodromus, v. 2, p. 116. Botanical Register, t. 1524.

Plagiolobium chorozemæfolium. Sweet: Flora Australasica, t. 2.

*Helianthemum formosum.*

# HELIAN'THEMUM FORMO'SUM.

## BEAUTIFUL HELIANTHEMUM.

EXOGENÆ, OR DICOTYLEDONEÆ.

{ Natural division to which this Plant belongs. }

NATURAL ORDER, CISTACEÆ.

THALAMIFLORÆ, OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }

POLYANDRIA. MONOGYNIA, OF LINNEUS.

No. 131.

GENUS. Helianthemum. Sepala quinque tribus interioribus æqualibus duobus exterioribus minutis, aut tria subqæualia. Petala quinque, rarius pauca vel nulla, caducissima, æstivatione imbricata. Stamina indefinita. Ovarium triquetrum, pluriovulatum, placentis parietalibus. Stylus nunc subnullus, nunc elongatus, rectus, obliquus, vel basi flexus. Stigma capitatum. Capsula trivalvis, unilocularis vel subtrilocularis. Semina angulata, glabra, albumine farinoso, embryone variis modis curvato, vel circumflexo.

SPECIES. Helianthemum formosum. *Dunal.* Caule fruticoso, ramis tomentoso-villosis-canescentibus, foliis subpetiolatis obovato-lanceolatis tomentoso-villosis, junioribus incanis, pedunculis calycibusque villosis, calycibus trisepalis. *Dunal* in De Candolle Prodromus, v. 1, p. 268.

Character of the Genus, Helianthemum. Sepals five, the three interior equal, the two outer very small, or only three, equal. Petals five, rarely fewer or none, very deciduous, imbricate in æstivation. Stamens indefinite. Ovary three-angled, with many ovules attached to parietal placentæ. Style sometimes nearly none, sometimes elongated, straight, oblique or bent at the base. Stigma capitate. Capsule three-valved, one-celled or nearly three-celled. Seeds angular, smooth, with a farinaceous albumen, and the embryo curled or rolled up in various modes.

Description of the Species, Helianthemum formosum. Shrub erect, much branched, the branches clothed with a whitish down, and long hairs intermixed, the older ones, especially in cultivation, green and less downy. Stipules none. Flowers in irregular cymose racemes at the end of the branches, forming together a kind of panicle. Peduncles one to two inches long, one, two, or three flowered, with the same kind of down as the rest of the plant, but with more of the long hairs, and bearing at each ramification a pair of small deciduous leaf-like bracts. Calyx of three ovate concave sepals, membranous and smooth on the side where they are overlapped by the adjoining one, covered on the back with long soft white hairs,

and short black stiff ones. COROLLA nearly as large as in Cistus salvifolius, yellow, each petal broadly obcordate and marked near the base with a large purple spot. STAMENS all fertile, very unequal in length. STIGMA very large, globular, and nearly sessile. OVARY one-celled, containing many ovules attached to three parietal placentæ which extend into the cavity of the ovary, so as nearly to divide it into three cells.

POPULAR AND GEOGRAPHICAL NOTICE. The beautiful group of Cistaceæ, is nearly confined to Europe and the neighbourhood of the Mediterranean, with a few North American species and one or two South American. The old genus Cistus, of Linnæus, comprehended all the European and some of the American kinds, and was of itself so natural and distinct a one that it would have been hardly necessary to divide it at all; however, as the species increased, and as two different looking groups were observed, to which botanical characters were readily assigned, the small-flowered low-growing kinds were separated from the large gum Cistus under the name of Helianthemum, a genus now universally adopted. The group was worked up with great care in the Prodromus of De Candolle, by a very accurate botanist who lived, as it were, in the midst of them; and by establishing subgenera or sections, all the purposes of scientific analysis were fully answered without interfering farther with the nomenclature. It is only to be regretted that the species were so much multiplied, and still more so in Sweet's monograph, since published. But a much greater calamity has lately been inflicted on the genus by a modern French writer, who unable in this, as in other cases, further to extend the multiplication of species, has most unnecessarily multiplied the genera, and made so sweeping a junction of species as to reduce the 124 of the Prodromus to 27 only, a process which adds little to the scientific reputation of its author, and nothing but confusion to the synonymy of the group.

INTRODUCTION; WHERE GROWN; CULTURE. Long since introduced from Portugal; it is rather a tender species, requiring a warm rocky situation, well drained, and some slight protection in winter. With these precautions it will grow about four feet high, and become an object of great beauty. The figure was taken in July from a plant in the Birmingham Horticultural Society's garden, where, as Mr. Cameron informs us, it bears full exposure in mild winters.

### DERIVATION OF THE NAMES.

HELIANTHEMUM from ἡλιος sun, and ἀνθεμον a flower, so named from the flower expanding in the sun. FORMOSUM beautiful.

### SYNONYMES.

CISTUS FORMOSUS. Curtis: Botanical Magazine. t. 264.

HELIANTHEMUM FORMOSUM. Dunal: in De Candolle, Prodromus, v. 1, p. 268. Sweet: Cistineæ, t. 50.

*Erica andromedaeflora.*

# ERI'CA ANDROMEDÆFLO'RA.

## ANDROMEDA-FLOWERED HEATH.

EXOGENÆ, OR DICOTYLEDONEÆ.

{ Natural division to which this plant belongs. }

NATURAL ORDER, ERICACEÆ.

CALYCIFLORÆ OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }

OCTANDRIA, MONOGYNIA, OF LINNEUS.

No. 132.

GENUS. Erica. *Linnæus.* Calyx æqualis, profunde quadrifidus vel sæpius quadripartitus. Corolla tubulosa, hypocrateriformis, urceolata, campanulata vel globosa, limbo brevi quadrifido erecto recurvo revoluto vel stellato-patente. Stamina octo, rarius sex vel septem, sub disco hypogyno sæpe glanduloso inserta. Filamenta libera, vel rarissime submonadelpha. Antheræ terminales vel laterales, ad insertionem filamenti calcaribus duobus subulatis cristatisve auctæ, vel muticæ. Ovarium quadriloculare vel rarius octoloculare, loculis pluriovulatis. Stigma capitatum vel rarius dilatato-peltatum, integrum vel quadrifidum. Capsula quadrilocularis, rarius octolocularis, loculicide dehiscens. Semina in loculis plurima, placentis axilibus. Frutices Europei vel maxima parte Austro-Africani. Folia verticillata, rarius sparsa. Pedicelli uniflori, axillares vel terminales, bi-tri-bracteati.

SPECIES. Erica andromedæflora. *Andrews.* Foliis ternis subincurvopatentibus linearibus acutissimis piloso-puberulis, floribus ad apices ramulorum brevissimorum vel in axillis superioribus solitariis ad ternis, secus ramos subracemosis, bracteis remotis parvis, sepalis ovatis sublanceolatisve apice carinatis coloratis, corolla ovato-urceolata calyce longiore, limbo glabro subpatente, antheris cristatis, ovario sessili glabro.

Character of the Genus, Erica. Calyx deeply four-cleft, or more frequently divided into four distinct sepals of equal size. Corolla tubular, salver-shaped, pitcher-shaped, bell-shaped or globular with a short four-cleft limb, which is erect, recurved, rolled back or spreading. Stamens eight, rarely six or seven, inserted under a hypogynous disk, which is frequently glandular. Filaments free or slightly monadelphous. Anthers terminal or lateral, with or without two subulate or crest-shaped appendages at the insertion of the filaments. Ovary four-celled, rarely eight-celled, each cell with many ovules. Style filiform. Stigma capitate or sometimes broad and peltate, entire or four-lobed. Capsule four-celled, rarely eight-celled, splitting through the middle of the cells into as many valves. Seeds numerous in each cell, attached to central placentæ.

Description of the Species, Erica andromedæflora. Stem erect, branching, growing in its native country to the height of about three feet. Leaves three in a whorl, loosely erect or spreading, somewhat incurved, linear, stiff and very sharp in general, but almost blunt in the variety here figured, flat above, convex, with a longitudinal furrow underneath, smooth in the present specimen, but more frequently

more or less hairy or downy. Flowers solitary, in twos or in threes either at the end of the branches, or on extremely short abortive axillary branches, so as to appear lateral. Pedicels about three lines long, bearing about the middle, or lower down, three small lanceolate coloured bracts; the lateral pedicels have also frequently at their base several smaller bracts or abortive leaves. Sepals or divisions of the calyx distinct from each other, broadly lanceolate or ovate, somewhat pointed, smooth, membranous or almost petaloid, coloured with a longitudinal rib, they are usually about two lines long. Corolla from three to five lines long in the different varieties, half as long again as the calyx, oval pitcher-shaped, the tube inflated, the mouth slightly contracted, the divisions of the limb short, blunt, somewhat spreading or recurved. Stamens and Pistil in the corolla. Filaments flattened. Anthers oblong, black, with two appendages at the base, usually broad and cristate, but in the present variety narrow and nearly entire. Ovary smooth.

Popular and Geographical Notice. The original Erica andromedæflora appears not to be uncommon in the mountains of Hottentots Holland; but the present variety, differing in its blunter and smoother leaves, and in the appendages of the anthers, is possibly the result of hybridization between Erica andromedæflora and another species; but as the former, even in a wild state, is very variable in the size and colour of the flowers, in the foliage, and even in the staminal appendages, it appears safer to class the present one as a mere variety. The species was referred by Mr. Don to his genus Eurystegia, and in the forthcoming volume of De Candolle's Prodromus, is placed in a section for which that name is retained, though with different characters. Like the other species of the same section, it connects in some measure the heaths with a flat spreading limb which constitute the sub-genus Stellanthe, with the large group of small flowered heaths. It is also somewhat anomalous in its inflorescence, having both terminal and lateral flowers. G. B.

Introduction; Where grown; Culture. The Erica andromedæflora was sent home, long since, both by Mr. Masson and by Mr. Niven, and has ever since remained in our gardens, where it is better known in the shape of a pale flowered variety, under the name of Erica pomifera. The accompanying plate was taken from a seedling raised, amongst numerous others, by Mr. T. Williams, in the garden of John Willmore, Esq. of Oldford, from Cape seeds.

### Derivation of the Names.

Erica, from a supposition that the Erica of the ancients was a Heath. Andromedæflora, Andromeda-flowered.

### Synonyme.

Erica andromedæflora. Andrews's Heathery, t. 151. Botanical Magazine, t. 1250. Loddiges' Botanical Cabinet, t. 521.

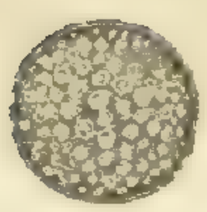
Erica holosericea. Salisbury: Transactions of the Linnæan Society, v. 6, p. 352. Erica pomifera of our Gardens.

*Phalaenopsis amabilis*

# PHALÆNOP'SIS AMAB'ILIS.

## PHALÆNOPSIS AMABILIS.

ENDOGENÆ, OR MONOCOTYLEDONEÆ.



{ Natural division to which this Plant belongs. }

## NATURAL ORDER, ORCHIDACEÆ.

GYNANDROSÆ, OF LINDLEY.

{ Artificial divisions to which this Plant belongs. }

GYNANDRIA, MONANDRIA, OF LINNEUS.

No. 133.

GENUS. Phalænopsis. *Blume.* Perigonii explanati patentis foliola exteriora libera, æqualia, interiora multo majora. Labellum columnæ pedi parum producto continuum, liberum, basi callosum, trilobum, lobis lateralibus recurvato-adscendentibus, intermedio angustiore bicirrhoso. Columna in ovario recumbens, semiteres, rostello gladiato. Anthera bilocularis. Pollinia duo, subglobosa, caudicula plana spathulata, glandula maxima cordata. *Endlicher:* Genera Plantarum, p. 204.

SPECIES. Phalænopsis amabilis. *Blume.* Herba moluccana epiphyta, caulibus simplicibus radicantibus, foliis rigidis latolanceolatis apice oblique retusis, floribus racemosis paniculatisve magnis albis.

Character of the Genus, Phalænopsis. Perigon flatly expanded, the outer divisions free, equal to each other, the two inner ones much larger. Labellum continuous with the slightly produced base of the column, free, with a protuberance at the base, three lobed, the lateral lobes curved upwards, the middle one narrower, with two awns. Column reclining towards the ovarium, semi-cylindrical, with a sword-shaped rostellum. Anther two-celled. Pollen masses two, nearly globular, the caudicula flat and spathulate, the gland very large and heart-shaped.

Description of the Species, Phalænopsis amabilis. Epiphyte, clinging to and turning round the stems of trees by means of numerous thick white intricate roots. Stem very short and simple. Leaves without pseudo-bulbs, but thick and stiff, half a foot to a foot and a half in length, broadly oblong lanceolate, usually obliquely truncate or retuse at the top, with a strong midrib underneath, and thickened at the base. Flower stalks two or three feet long, somewhat flexuose, with a few small bracteæ placed at considerable intervals, bearing at the end a large loose raceme of from eight to twelve flowers, which in the cultivated specimen is simple, but in a wild state is said to be frequently branched into a panicle. Pedicels one to two inches long, bent upwards above the middle, each at the axilla of

a small bractea. Flowers full three inches in diameter, white, and of a thick, almost leathery consistence; the outer divisions tinged with a yellowish green, the inner ones very broad; the labellum veined and tinged with purple and yellow; the middle divisions ending in two curious long twisted awns,

Popular and Geographical Notice. This splendid epiphyte is a native of the islands of the Indian Archipelago, where it was first found by Rumphius ascending the Mangos of the Island of Amboyna, and other short thick-stemmed mossy trees, thichly matting them with its numerous roots and tufted stems, from whence hung the long ample panicles. Osbeck, Blume, and Horsfield, afterwards gathered it on various points of the wooded coast of Java, and Cuming in the Phillipine Islands. It is, as far as is hitherto known, the only species of a genus placed by Lindley and other botanists in the tribe of Vandeæ. It would appear, though, from Rumphius, that there is a second species or very marked variety with the flowers purple outside. It is known in the country, according to Rumphius, by the names of white or male Angrec; the Dutch settlers calling it the Flying Dove, not an unapt simile.

Introduction; Where grown; Culture. The specimen from which the accompanying drawing was taken, the only one which has hitherto flowered in this country, and perhaps the only one which we possess, was received from Mr. Cuming, from Manilla, by Messrs. Rollinson of Tooting, and flowered for the first time in the spring of 1838. This year it produced two long racemes, and was exhibited at the May show of the Horticultural Society, where it was admired as one of the finest objects at the most remarkable exhibition the Society had yet had, and received the gold Knightian medal, the highest reward offered for that description of plants. It seems to require only the usual culture of orchidaceous plants, one principal attendant of which, it should be remembered, is a hot moist atmosphere.

## Derivation of the Names.

Phalænopsis from *φαλαινα*, phalaina, a moth, and *οψις*, opsis, resemblance; the flower having been compared to some curious lepidopterous insect. Amabilis. lovely.

## Synonymes.

Epidendrum amabile. Linneus: Species Plantarum, p. 1351.

Angræcum album majus. Rumphius: Herbarium Amboinense, v. 6, p. 99, t. 43.

Phalænopsis amabilis. Blume: Bijdragen, p. 294, t. 44. Lindley: Botanical Register, 1838, t. 34. Bennett: in Horsfield's Plantæ Javanicæ Rariores.

*Scottia dentata.*

# SCOTTIA DENTATA.

## BROAD-LEAVED SCOTTIA.

*EXOGENÆ,* *OR* *DICOTYLEDONEÆ.*

{ Natural division to which this plant belongs. }

## NATURAL ORDER, LEGUMINOSÆ.

CALYCIFLORÆ OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }

MONADELPHIA, DECANDRIA, OF LINNEUS.

No. 134.

GENUS. Scottia. *Brown.* Calyx tubuloso-campanulatus, late quinque dentatus, dentibus superioribus parum majoribus. Vexillum orbiculatum, complicatum, emarginatum, in stipitem angustatum, exappendiculatum; alis brevius. Alæ oblongæ. Carina oblonga, recta, alis æquilonga, petalis apice dorso convexis. Stamina monadelpha, tubo postice fisso. Antheræ omnes conformes oblongæ. Ovarium glabrum, stipitatum, pluri-ovulatum stipite basi vaginato. Stylus filiformis, stigmate parvo terminale. Legumen stipitatum, compressum, polyspermum, margine utroque incrassato. Semina strophiolata.

SPECIES, Scottia dentata. *Brown.* Frutex foliis oppositis simplicibus ovato-triangularibus eroso-denticulatis, floribus axillaribus solitariis breviter pedicellatis, bracteolis sub calyce duabus, inæqualibus imbricato-vaginantibus.

Character of the Genus, Scottia. Calyx tubular-bell-shaped, with five broad teeth, the upper ones rather larger. Standard orbicular, folded, emarginate, narrowed into a short claw, without appendages, shorter than the wings. Wings oblong. Keel oblong, straight, of the length of the wings; the petals joined together by the outer edge at the top. Stamens monadelphous, the tube split on the upper side. Anthers oblong, all alike. Ovary smooth, stalked, with several ovules; the stalk enclosed at the base in a short sheath. Style filiform, with a short terminal stigma. Pod stalked, compressed, thickened on both edges, with several strophiolate seeds.

Description of the Species, Scottia Dentata. A somewhat straggling shrub, of about two feet high, with slender branches, the younger ones somewhat rough with small glandular tubercles, in other respects the whole plant is smooth. Leaves borne on very short stalks, opposite, simple, ovate-triangular, blunt, bordered with short irregular glandular teeth, somewhat leathery, reticulate, the midrib strongly marked underneath. Stipules short, broad, pointed, persistent. Pedicels axillary, solitary, one-flowered, very short, downy. Bracteoles, two at the top of the calyx, unequal, very broadly rounded,

imbricate, coriaceous, striated; the outer one, short and half embracing the pedicel; the inner one, twice as long, and folded round so as completely to sheath the base of the calyx. CALYX three lines long, green. COROLLA red, the standard projecting two lines beyond the calyx, the other petals full three lines longer.

POPULAR AND GEOGRAPHICAL NOTICE. The Scottia dentata, the only species of the genus, is a native of the South Coast of Australia, where it was discovered by Mr. Brown, during Captain Flinder's expedition. We are unacquainted with the exact locality, but it does not appear to have any extensive range, as it occurs but in few collections. It is a remarkable genus amongst Genisteæ, from the form of the corolla, and the sheath round the base of the ovary, in both which characters it bears a resemblance on the one hand to Brachysema, amongst Podalyrieæ, and on the other, to various Phaseoleæ. The stamina and foliage leave, however, no doubt that its nearest affinities are with Genisteæ, and amongst these with the genera Platylobium and Lalage; it has the sheathing bracteolæ and opposite simple leaves in common with both, differing from them chiefly in the form of the corolla and calyx. It is an ornamental plant, but perhaps less so than many other Australian papilionaceous plants, the flowers being too much concealed by the foliage. G. B.

INTRODUCTION; WHERE GROWN; CULTURE. This plant is said to have been first introduced to the garden of Kew by Mr. Peter Good, in the year 1803, but it has ever since been a scarce plant in our greenhouses. There is a fine specimen in the Horticultural Society's collection, which flowers abundantly under the usual treatment of South Australian plants. Our drawing was made from a fine specimen in the nursery of the Messrs. Knight, of Chelsea. This is one of those Greenhouse plants which soon becomes sickly on being placed out of doors during summer, therefore must be kept in the greenhouse all the year. It is most successfully increased by layers, but may be struck also from cuttings, in sand under a hand-glass. Soil—sandy peat and loam.

### DERIVATION OF THE NAMES.

SCOTTIA, in honour of Dr. Robert Scott, formerly Professor of Botany at Dublin.
DENTATA, toothed, in allusion to the leaves.

### SYNONYME.

SCOTTIA DENTATA. Brown: Hortus Kewensis, v. 4, p. 269. De Candolle: Prodromus, v. 2, p. 118.

M^r Wilson. del.

*c. Scarea Riceana.*

Nuttall sculp

# ACA'CIA RICEA'NA.

## MR. SPRING RICE'S ACACIA.

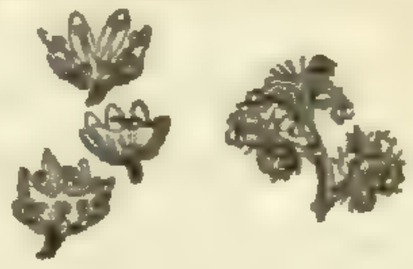
EXOGENÆ, OR DICOTYLEDONEÆ.

{ Natural division to which this Plant belongs. }

NATURAL ORDER, LEGUMINOSÆ.

CALYCIFLORÆ, OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }



POLYGAMIÆ, MONŒCIA, OF LINNEUS.

No. 135.

GENUS. Acacia. *Necker.* Flores polygami. Calyx 4-5-dentatus. Petala 4-5 nunc libera, nunc in corollam 4-5-fidam coalita. Stamina numero varia 10-200. Legumen continuum exsuccum bivalve. *Decandolle:* Prodromus, Pars. 2, p. 448.

SPECIES. Acacia riceana. Phyllodiis sparsis tereti-compressis linearibus mucronato-pungentibus, spicis axillaribus solitariis laxis cylindraceis, floribus 3-4 fidis, ovariis pubescentibus.

Character of the Genus, Acacia. Flowers polygamous. Calyx 4-5-toothed. Petals 4-5, sometimes free, sometimes united into a 4-5-cleft corolla. Stamens varying in number from 20 to 200. Legumen continuous (not lomentaceous) dry, two-valved.

Description of the Species, Acacia Riceana. A shrub, from three to four feet high, with somewhat of a furze-like aspect; the branches rather elongated, becoming very slightly deflexed. Leaves (phyllodia) alternate, horizontal, about one inch long, articulate, linear-subulate, slightly succulent, but compressed, rigid, and mucronato-pungent, of a dark green, with the surface covered with minute white dots, one-veined in the middle, but having also another vein on each edge, and occasionally a trace of one between the mid-vein and edge. The pungent apex of a dark brown. Flowers in axillary and solitary spikes, on short contracted branches, but as each of these latter bear from one to four spikes, these appear to be more or less crowded in the middle of a tuft of leaves, seated in the axils of those leaves where the contracted branches are developed. Peduncles yellow, nearly one inch long, bearing from five to fifteen scattered or occasionally sub-verticillate flowers, with a small ferruginous bract at the base of each. The flowers are polygamous, of a pale citron colour. Calyx monosepalous, campanulate, three- rarely four-lobed, the lobes obtuse, shortly ciliate. Corolla tri-petalous, (rarely quadri-petalous), the petals twice as long as the calyx, and alternate with its segments, ovate, revolute, one-nerved. Stamens very numerous, longer than the petals, scarcely perigynous, and nearly free. Anthers two-lobed, sub-globose. Ovary free, ellipsoidal, villous. Style glabrous, filiform, longer than the stamens, very little curved

at the apex. STIGMA truncate. The young fruit is slender and villous. J. S. HENSLOW.

POPULAR AND GEOGRAPHICAL NOTICE. In so numerous a genus as Acacia, it is often very difficult to identify particular species. Mr. Bentham has kindly undertaken to compare the present plant with those in his own herbarium, and has informed us that he possesses dried specimens of it, collected by Mr. Gunn in Van Dieman's Land, numbered but not named. It evidently belongs to De Candolle's third Section, "Spicatæ; floribus nempe in spicis cylindricas dispositas. Stipulæ in omnibus nullæ aut minimæ inermes." It agrees in general habit and some particulars with A. verticillata, but differs considerably from that species in having its leaves scattered, and the parts of the perianth less numerous. The leaves are formed more like those of oxycedrus, but are probably more succulent.

INTRODUCTION; WHERE GROWN; CULTURE. The present specimen was raised in the Cambridge Botanic Garden, from seed sent from Van Dieman's Land to the Right Hon. T. Spring Rice, the Chancellor of the Exchequer, after whom the species has been named, as a trifling mark of respect for the ready condescension with which, when Secretary to the Colonies, he professed himself anxious to further the interests of Botany in any way which his position in the Government might enable him by facilitating the transmission of seeds or living plants from any of our Colonies. The scientific world are greatly indebted to him on several occasions, and among others, for his application to the Lords of the Treasury for a grant in aid of the publication of Mr. Darwin's work, entitled the "Zoology of the Beagle's Voyage," and also of Dr. Smith's work on the New Animals discovered by him in South Africa. These two works, in all probability, would never have appeared excepting for the liberal and timely assistance thus procured for them, and most certainly the public could not have purchased them at the reasonable prices at which they are now publishing, if they had been undertaken at the personal risk of their authors.

From the same packet of seeds from which this plant was raised other Acacias have been obtained, but have not yet flowered. They have all the same general aspect, and their leaves are precisely similar, but they are labelled, respectively, "Willow-leaved Gum Mimosa," "Cockspur Mimosa," "Broad-leaved Mimosa," "Willow-leaved Whattle Mimosa." The present plant may be considered equally ornamental with its congeners, and has the advantage over most of them in the earlier expansion of its flowers, which appear in March. It requires only the ordinary treatment of a greenhouse plant.

### DERIVATION OF THE NAMES.

ACACIA, probably from *ακαζω*, AKAZO, to point or sharpen, the stipules of many being thorny. RICEANA, after the Right Hon. T. Spring Rice, as mentioned above.

Mlle S. Maumené del.

*Viburnum dentatum*

# PIMELE'A DECUSSA'TA.

## DIOSMA-LEAVED PIMELEA.

Variety: diosmæfolia.

EXOGENÆ. OR DICOTYLEDONEÆ.

{ Natural division to which this Plant belongs }

NATURAL ORDER, THYMELACEÆ.

MONOCHLAMYDEÆ, OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }

DIANDRIA, MONOGYNIA, OF LINNEUS.

No. 136.

GENUS. PIMELEA. *BANKS.* Perianthium infundibuliforme, limbo 4-fido, fauce esquamata. STAMINA duo, fauci inserta, laciniis exterioribus opposita. STYLUS lateralis, STIGMA capitatum. NUX corticata, raro baccata. *R. BROWN:* Prodromus Floræ Novæ Hollandiæ, p. 359.

SPECIES. PIMELEA DECUSSATA. INVOLUCRO tetraphyllo, foliis rameis dissimile, foliolis late ovatis, semicoloratis, utrinque glabris; capitulo terminale; perianthii tubo hispido; foliis decussatis, ovalibus coriaceis. *R. BROWN.*

VARIETY. PIMELEA DECUSSATA DIOSMÆFOLIA. FOLIOLIS involucri ovatis, acutis, lanato-ciliatis, capitulum subæquantibus; perianthiis saturatè roseis.

CHARACTER OF THE GENUS, PIMELEA. PERIANTH funnel-shaped, its limb 4-cleft, and throat without scales. STAMENS two, inserted in the throat, and opposite to the two outer laciniæ, STYLE lateral. STIGMA capitate. NUT generally leathery externally, rarely succulent.

DESCRIPTION OF PIMELEA DECUSSATA, VARIETY, DIOSMÆFOLIA. SHRUB, erect, three feet high. Branches lax and spreading. LEAVES oblong, coriaceous, opposite, decussating, reflexed, mucronulate, dark green above, glaucous below. CAPITULUM crowded, terminal, rather small. INVOLUCRE of four ovate acute subcoloured leaves, which are glabrous on both sides, but ciliated on the edges; scarcely shorter than the capitulum. PERIANTH bright rose-coloured, hispid on the outside, hairs very long on the lower half of the tube, and on the outside the limb, shorter and sub-appressed on the upper half of the tube. STAMENS inserted into the throat of the perianth, scarcely half the length of the limb. STYLE much exserted, lateral. STIGMA capitate. GERMEN oblong, glabrous, green.

POPULAR AND GEOGRAPHICAL NOTICE. This very pretty plant was received at the Botanic Garden, Edinburgh, from Mr. Makoy, of Liege, under the name of Pimelea diosmæfolia, but I am convinced it

is only a variety of Pimelea decussata, distinguished by its darker rose-coloured flowers, its more ciliated involucrum, and its dense, small, more crowded capitula: it is, however, enumerated as a species in the first additional supplement of Loudon's admirable catalogue, and figured as such in the Botanical Cabinet. It very nearly resembles Pimelea Hendersonii, distinguishable chiefly by its smaller capitula, and its less acute foliage, and, I fear, is a link by which this will also be united to Pimelea decussata, which is known to be a variable species. The form now described is very handsome, very worthy of cultivation, and readily distinguishable. The genus Pimelea, as far as yet known, is confined almost exclusively to New Holland and Van Dieman's Land, a few species only being natives of New Zealand. The species are generally pretty, some very handsome, and have become such favourites in cultivation, that although in 1810, when the second edition of Hortus Kewensis was published, only one species was mentioned, there are now twenty-five species enumerated in Loudon's Hortus Britannicus, exclusive of the Pimelea Hendersonii, and the form which has given rise to these remarks. I have no information as to the native country of this, but have no doubt of its being New Holland, and the species of which I consider it a variety was found by Mr. Brown on the southern coast.

Introduction; Where grown; Culture. It was introduced to this country in the year 1837, from Liege, as above stated. The drawing was made from a plant which flowered in the Edinburgh Botanic Garden, in June last. It should be known to cultivators that the Pimeleas do not generally admit of being subjected to full exposure throughout the summer months, without injury. They flourish most completely during the warm season by being kept in a pit or frame, where the sashes can be put over them in rainy weather and hot sunshine. The present species may be increased by cuttings, planted in sand, under glass. It should be potted in rough sandy peat, in which it will flower most abundantly. Grah.

### Derivation of the Names.

Pimelea from πιμελη pimele, fat, on what account is not obvious, unless the fresh fruit of some species contains fatty matter. Decussata, from the Latin, signifying crosswise; used in allusion to the leaves, which are arranged in pairs, that alternately cross each other. Diosmæfolia, having leaves like a Diosma.

### Synonyme.

Pimelea diosmæfolia. Bot. Cab. 1708.

*Alstroemeria acutifolia-aurea.*

# ALSTRŒME'RIA ACUTIFO'LIA-AURE'A.

## HYBRID ALSTRŒMERIA.

ENDOGENÆ, OR MONOCOTYLEDONEÆ.

{ Natural division to which this Plant belongs. }

NATURAL ORDER, AMARYLLIDACEÆ.

EPIGYNOSÆ, OF LINDLEY.

{ Artificial divisions to which this Plant belongs. }

HEXANDRIA, MONOGYNIA, OF LINNEUS.

No. 137.

GENUS. Alstrœmeria. *Linnæus.* Perigonium corollinum superum, sexpartitum, subcampanulatum, regulare vel subbilabiatum, foliola interiora angustiora, duo basi subtubulosa. Stamina sex, imo perigonii inserta; filamenta erecta vel declinata, antheræ ovales, erectæ. Ovarium inferum, triloculare. Ovula in loculis plurima, horizontalia, anatropa. Stylus filiformis, directione staminum; stigma trifidum, lobis replicatis. Capsula oblonga, vel globosa, tri-sexcostata, triloculares, loculicido-trivalvis vel rarius baccata indehiscens. Semina in loculis plura, subglobosa, horizontalia, testa membranacea, rugosa, rhaphe immersa umbilicum basilarem chalazæ apicali tuberculiformi jungente. Embryo axilis, albumine carnoso dimidio brevior, extremitate radiculari umbilicum attingente. Herbæ in America tropica et Australi extratropica indigenæ; radicibus tuberoso-fasciculatis, caule foliosa erecto, scandente vel volubili, floribus terminalibus umbellatis. *Endlicher:* Genera Plantarum, p. 180.

HYBRID. Alstrœmeria acutifolia-aurea. Caule volubili, ramoso anguloso. Foliis subsessilibus, resupinatis, glaucescentibus, lanceolato-acutis. Floribus terminalibus, inflorescentiâ umbellatis. Perigonio subcampanulato, aurantiaco.

Character of the Genus, Alstrœmeria. Perigon resembling a corolla, superior, sexpartite, subcampanulate, regular or slightly two-lipped. The interior folioles narrower, two of them subtubular at the base. Stamens six, inserted at the base of the perigon; filaments erect, or declining; anthers oval, erect. Ovary inferior, three-celled. Ovules in each cell numerous, horizontal, anatropous. Style filiform, following the direction of the stamens; stigma trifid, lobes curved. Capsule oblong or globose, three- or six-ribbed, three-celled, becoming three-valved by a loculicidal dehiscence, or very rarely berried and indehiscent. Seeds in the cells numerous, subglobose, horizontal, testa membranaceous, rough; the raphe sunk, joining by the tubercular point of the chalaza, the basilar umbilicus. Embryo in the axis, shorter by a half than the fleshy albumen, reaching by its radical extremity to the umbilicus.

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Reference to the Dissections.

1, View of the Pistillum. 2, The deflexed stamens surrounding the style. 3, One of the spathulate-shaped folioles of the interior circle of the perigon. 4, One of the narrower folioles of the outer whorl.

DESCRIPTION OF THE HYBRID, ALSTRŒMERIA ACUTIFOLIA-AUREA. STEM twining, smooth, branched, rather slender, but more robust than that of Alstrœmeria acutifolia; less so than the erect stem of Alstrœmeria aurea. LEAVES scattered, nearly sessile, resupinate, owing to a twist of the base, lanceolately-acute, slightly denticulate at the lower part, of a glaucous colour, nerves very perceptible on the upper (naturally the under) surface; less so on the under (upper) surface. INFLORESCENCE umbellate, umbel simple; several leaf-like bracts among the pedicels, which are numerous and slightly pubescent. PERIGONE subcampanulate, of six folioles somewhat unequal, the three exterior shorter, of a reddish orange-colour externally, rounded, or only bluntly pointed at the apex; the three interior narrower at the base, but spreading out, and notched at the margin, acuminate from a strong central line being prolonged. STAMENS six; filaments at first erect, afterwards slightly deflected. ANTHERS purple, two-celled, OVARY turbinate, pubescent, obscurely ribbed, three-celled. STYLE erect. STIGMA three-parted, segments recurved.

POPULAR AND GEOGRAPHICAL NOTICE. The genus Alstrœmeria contains species chiefly natives of tropical America, and of the southern extra tropical part of that continent; one of the parents of our hybrid, Alstrœmeria aurea, being found as far south as the 44°—viz. in the island of Chiloe; the other, Acutifolia, being a native of Mexico. The characters approach most nearly to those of Alstrœmeria aurea, from which the pollen was obtained.

INTRODUCTION; WHERE GROWN; CULTURE. This hybrid was raised by the Messrs. Pope of the Handsworth Nursery, near Birmingham, These intelligent cultivators are of opinion that it would flower freely, planted out against a south wall. Of this there can be little doubt, since Aurea grows with us in the open ground, in a sandy compost, as freely as the White Lily, and increases more abundantly. Acutifolia, too, we have seen growing and flowering luxuriantly out doors, but it is more slow of increase. Mr. Herbert observes, "The greater part of these beautiful plants are natives of elevated situations and dislike a high temperament, and will endure the winter if planted pretty deep in a light soil, and covered over with leaves in the cold season."

### DERIVATION OF THE NAMES.

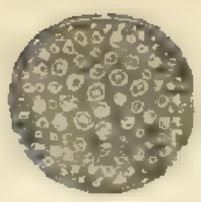
ALSTRŒMERIA after Alstrœmer, a Sweedish naturalist, who first made this genus known to Linneus. ACUTIFOLIA-AUREA, a term compounded of the names of the two parents.

*Trillium rhombiideum.*

# TRIL'LIUM RHOMBOI'DEUM.

## RHOMBOIDAL TRILLIUM.

ENDOGENÆ, OR MONOCOTYLEDONEÆ.



{ Natural division to which this Plant belongs. }

NATURAL ORDER, SMILACEÆ.

SPADICOSÆ, OF LINDLEY.

{ Artificial divisions to which this Plant belongs. }

HEXANDRIA, TRYGINIA, OF LINNEUS.

No. 138.

GENUS. Trillium. *Miller.* Flores hermaphroditi. Perigonium hexaphyllum, patens vèl reflexum, persistens; foliola tria calycina, interiora majora petaloidea. Stamina sex, perigonii foliolis basi inserta; filamenta filiformia, libera, connectivo ultra antheræ loculos lineares marginales, in acumen breve producto. Ovarium triloculare. Ovula plurima, biseriata, adscendentia, anatropa. Styli tres, distincti, vel rarissime basi connati, patentes, recurvi; stigmata obsoleta. Bacca trilocularis. Semina plurima, obovato-subglobosa, horizontalia, testa coriacea, fuscescente, umbilico basilari, ope rapheos filiformis cum chalaza apicali conjuncto. Embryo minimus, in albumine dense carnoso prope umbilicum inclusus, extremitate radiculari centripeta. Herbæ perennes, in America boreali obviæ, in Asia arctica et summis Indiæ jugis rarissimæ; caule simplicissimo foliis verticillatis, sessilibus, ovatis, nervosis, flore terminali solitario, inter folia sessili vel pedicillato, pedicello nudo. *Endlicher:* Genera Plantarum, p. 153.

SPECIES. Trillium rhomboideum. *Michaux.* Foliis lato-rhomboideis; pedunculo inclinato; perigonii laciniis omnibus longitudine subæqualibus, rectis; exterioribus ovali-lanceolatis; interioribus plus minus ovalibus: bacca subglobosa, nigricante.

Character of the Genus, Trillium. Flowers hermaphrodite. Perigon of six leaves, spreading or reflexed, persistent; three of the leaflets external, resembling a calyx, three internal, larger and petaloid. Stamens six, inserted on the base of the leaves of the perigon; filaments filiform, free, the connectivum prolonged beyond the linear marginal cells of the anthers, and terminating in a short point. Ovary three-celled. Ovules numerous, in two rows, ascending, anatropous. Styles three, distinct or very rarely united at the base, spreading, recurved; stigmata obsolete. Berry three-celled. Seeds numerous, obovately-subglobose, horizontal, testa coriaceous, brownish, umbilicus basilar, united by means of the filiform rhaphe with the chalaza at the summit. Embryo very small, inclosed in a very solid fleshy albumen near the umbilicus, the radicle centripetal.

Description of the Species, Trillium rhomboideum. Stem perennial, tuberous, sending up annually an herbaceous, simple,

smooth cylindrical stalk, having at the base a single ovate, acute scale, and at the summit three verticillate, broad-rhomboidal acuminate leaves, which have three strongly marked primary nerves, and some more faintly marked lateral ones; the upper surface light green. FLOWER solitary, pedicel smooth, cylindrical, slender, somewhat inclined. PERIGON of six nearly equal leaves, spreading; the three external, narrow, lanceolate, acute, bright green on the outer, of a dingy brownish green on the inner surface: the three internal, broader, somewhat rhomboidal, acuminate, of a dark purple colour, with three strongly marked veins, and several fainter lateral ones. STAMENS six, filaments slender, anthers linear, yellow, connectivum apiculate. STYLES three, distinct, recurved. OVARY three-celled, seeds numerous. BERRY sub-globose, becoming blackish when ripe.

POPULAR AND GEOGRAPHICAL NOTICE. This species, usually regarded only as a variety of the Trillium erectum of Linneus, is found on the high mountains of Carolina, North America. Our attention has been directed to it, in consequence of the uniform development of the various parts of which it is composed. It has three leaves, and a three-celled berry, six anthers, and a six-parted perigon, composed of three inner and three outer divisions—answering to a three-parted calyx and corolla. This has reminded us of certain investigations into the connexion between the number and arrangement of the stamens of the flower, and the number and arrangement of the bundles of wood which are observable in the stem, soon after it emerges from the germinating seed, and which would seem to determine the order of many of the external organs of the plant, even the number of the veins or divisions of the leaves, in some instances, and the position of the stamens, whether in a single or a double row. It is to the latest discoveries in vegetable physiology that we are indebted for a knowledge of these beautiful arrangements in the structure of every plant that grows. However mean a place the weed of the road bank may occupy in the estimation of man, it partakes of the same wise laws of number, order, and harmony, which regulate alike the formation of all the works of creation. The Trillium erectum has been examined by Schultz, (Die Natur der lebendigen Pflanze, II, p. 24,) but we have been unable to see his observations. What has been ascertained respecting some other plants is embodied in a paper from which are borrowed the following passages. "At the base of the stem of the Vicia faba (common garden bean) when a transverse section is made and exam-

ined with a microscope of moderate power, may be found ten bundles of what is termed woody fibre, surrounding some very delicate spiral vessels. When the flower is carefully examined, the calyx or cup is observed to consist of five leaves, partially united, the corolla also consists of five leaves, while the stamens amount to ten; but the pistil, which when ripe forms the pod, consists of only one leaf, by the suppression of the four requisite to complete the normal number. Such also is the case with the pea (Pisum sativum), and the lentil (Ervum lens). The primrose has five bundles near the base of the stem; in it the stamens are five, while the pistil, originating in five leaves, ultimately becomes a one-celled capsule. These are all exogenous plants, which conform to the rule predominating in that type of organization. The Tropæolum majus (Nasturtium, or Indian-cress) departs from it by having eight stamens, yet at the base of its stem eight bundles of woody fibre exist. So again, the Salvia sclarea (Herb-clary) has only two stamens, and the number of bundles near the base does not exceed two.

The greater number of endogenous plants shew a like correspondence; not that the figures absolutely agree, but that they have a definite ratio. One of the most remarkable of endogenous plants in respect of the numerical relations of the flower, is the Paris quadrifolia (Herb Paris), which has eight stamens, four styles, and on the stem four leaves; the number of bundles of fibres is twelve, in two distinct rows, the inner of four, and the outer of eight. It would appear as if the outer circle constituted the rudiments of the eight stamens, while the inner one furnished the type of the four styles. Nor is this the only point worthy of notice, as the stem possesses a sort of quadrangular form.

On the number of bundles of wood is based the mathematical principle which displays itself in the numerical proportion and relations of all parts of the plant, more particularly in the number of leaves on the stem, which constitutes a spire or helix, and also of the number of parts which will be found to constitute the various whorls of the flower. Nothing is more interesting than, from the mere examination of the position of the leaves on the stem, and ascertaining (beginning with the lowest, and reckoning upwards in a spiral direction, till one leaf be found placed perpendicularly over the leaf where the notation commenced,) the number of leaves embraced in this spiral ascent, to determine what will be the number of parts constituting the whorls of the calyx, corolla, and stamens of the flower, long before it makes its appearance, and unfolds these various organs. The converse of the proposition also holds, since it is as practicable, by inspecting any given flower, to determine what number of leaves formed a spire on

each stem or branch of the plant which produced it; so exactly, in most cases, are they found to tally, Nor is this all; for where a number of flowers are crowded together, it can be proved that each flower consists of the extreme leaves, brought into close approximation, of the termination of a branch, and each branch so placed that the entire bunch of flowers is subject to the same laws of arrangement as if they had been remote from each other, arranged on an elongated, instead of a contracted axis. What is termed by botanists inflorescence, is only the arrangement of the coloured leaves, called flowers, which do not deviate in their order, position, or succession, from those of the other branches or the common green leaves on the stem. This, when carefully looked for, may be clearly seen in the leaves of the horse-chesnut (Æsculus hippocastanum), and in each little cluster of flowers, which form the whole bunch, which are always seven to each group; and the particular or individual flowers have seven stamens, all of which is shadowed forth in the seven divisions of the leaves of that tree. Again, if the tall and handsome spike of flowers of the Lupinus polyphyllus be examined, a spiral of the most perfect kind will be discovered in which the sixth flower in the order of ascent will be found placed perpendicular above the first of the series; thus, five form the spiral. Each of the numerous flowers will also be found to possess a calyx of five leaves, a corolla of like number, with ten stamens. The more closely it is investigated, the more fully will it be found to confirm the opinion of Grew, that "the arithmetic of nature always accords with its geometry.'"

Introduction; Where grown; Culture. It appears to have been introduced to this country, from North America, about the year 1759. Our drawing was made from a plant belonging to the Messrs. Pope of Handsworth. It succeeds best in a bed of peat, in a moist shady situation; producing its flower in April or May, at the summit of the stem, which is about half a foot in height. Contrary to the treatment which is required by many exotics, it is desirable that this species of Trillium should continue undisturbed for several years, when it will form a large plant, and produce abundance of flowers.

### Derivation of the Names.

Trillium, from Τριλιζ, trilix, from the triple-leaved calyx. Rhomboideum, from the rhomboidal shape of the leaves.

### Synonymes.

Trillium rhomboideum. Michaux: Flora Boreali Americana, v. 1, p. 215. Sprengel: Species Plantarum, v. 2, p. 150.

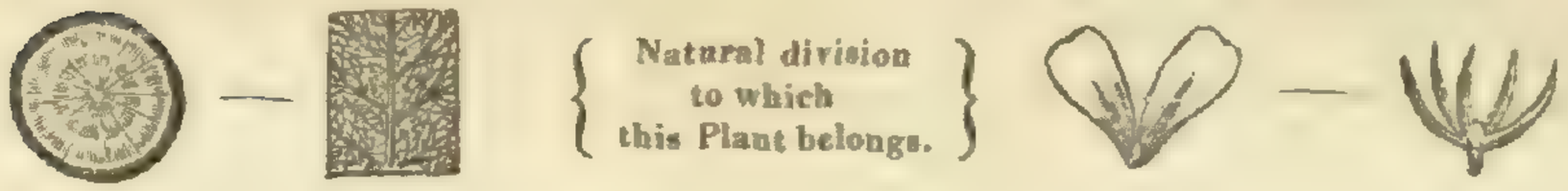
Trillium erectum. Linneus: Species Plantarum, Edit. 2nd. v. 1, p. 484.

*Stephanomphyles tricolor*

# SIPHOCAM'PYLUS BICO'LOR.

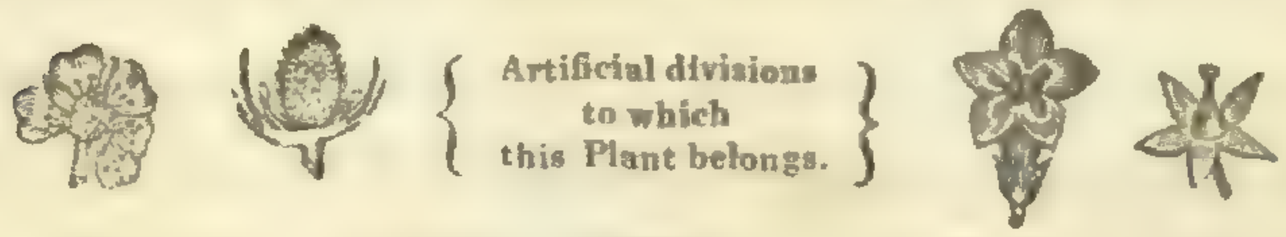
## TWO-COLOURED SIPHOCAMPYLUS.

EXOGENÆ, OR DICOTYLEDONEÆ.




NATURAL ORDER, LOBELIACEÆ.

CALYCIFLORÆ OF DECANDOLLE.




PENTANDRIA. MONOGYNIA, OF LINNEUS.



GENUS. SIPHOCAMPYLUS. *POHL.* CALYX tubo obconico turbinato vel hæmisphærico, cum ovario connato, limbo libero quinquefido. COROLLA summo calycis tubo inserta tubulosa, tubo integro, limbi quinquefidi bilabiati laciniis subæqualibus vel duabus superioribus parum longioribus STAMINA quinque, filamenta et antheræ connata. OVARIUM vertice breviter exsertum biloculare. OVULA in placentis carnosulis dissepimento utrinque longitudinaliter adnatis plurima. STYLUS inclusus, stigmate exserto bilobo, lobis orbiculatis. CAPSULA bilocularis, vertice exserto loculicide bivalvis. SUFFRUTICES Americani. FOLIA alterna vel opposita. FLORES axillares solitarii pedicellati, rarius in racemum vel corymbum approximati. *ENDLICHER:* Genera Plantarum, p. 511.

SPECIES. SIPHOCAMPYLUS BICOLOR. *DON.* Glaberrimus foliis lanceolatis subserratis basi angustatis, floribus axillaribus nutantibus pedunculis medio bibracteolatis folio brevioribus.

CHARACTER OF THE GENUS, SIPHOCAMPYLUS. CALYX with an obconical, top-shaped, or hemispherical tube adhering to the ovarium, the limb free and five-cleft. COROLLA inserted into the top of the tube of the calyx, tubular, the tube entire, the limb five-cleft, two-lipped, the divisions nearly equal, or the two upper rather longer. STAMENS five, the filaments and anthers connate. OVARY slightly free at the top, bilocular. OVULES many, attached to fleshy placentæ, adhering lengthwise to the dissepiment. STYLE shorter than the stamens. STIGMA rather exceeding them, with two orbicular divisions. CAPSULE two-celled, opening at the top, which is free, in two valves across the cells.

DESCRIPTION OF THE SPECIES, SIPHOCAMPYLUS BICOLOR. STEM somewhat shrubby at the base, two or three feet high, but little branched, perfectly smooth, and reddish. LEAVES alternate, on short foot-stalks, narrow or broad lanceolate, two or three inches long, ending in a long point, slightly toothed on the margin, perfectly smooth, often reddish underneath. PEDICELS solitary in the axillæ of the upper leaves and about as long as them, quite smooth, and with two very small bracts. TUBE OF THE CALYX hemispherical, about two lines long and three and a half broad; the divisions of the limb, linear, lanceolate, and rather longer than the tube. COROLLA above an inch

long, red, with a yellowish tint at the top, the inside smooth, the tube entire at first, but afterwards often splitting longitudinally, the divisions of the limb oblong linear, rather shorter than the tube. STAMENS about the length of the corolla, closely connected into a tube, enclosing the style, with all the anthers bearded at the top.

POPULAR AND GEOGRAPHICAL NOTICE. The genus Siphocampylus was first separated from Lobelia by the late Dr. Pohl, of Vienna, who figured ten species in the elaborate work he commenced on the plants brought by him from Brazils. With the addition of a number of old Lobelias and several new ones since described, it is now said to consist of above sixty species, all readily distinguished from the other genera of the order, as well by the habit as by their botanical characters. They are all natives of the warmer parts of America, from Mexico to South Brazil and Peru, and but few are found without the tropics. The subject of this article is a native of Mexico, and, according to Mr. Don, also of Georgia in the United States; and, coming from the northern limits of the range of the genus, will probably be found less tender than the others, but it certainly does not appear to approach in beauty to some of the Brazilian ones.

The above description is taken from specimens cultivated in the Garden of the Horticultural Society, and also from wild specimens transmitted by Mr. Hartweg, the Society's collector in Mexico. The figures quoted below differ slightly in their broader leaves and hairy peduncles.

INTRODUCTION; WHERE GROWN; CULTURE. Said to have been first raised by Messrs. Low & Co. in 1837, from seeds collected in Georgia, by Mr. Alexander Gordon, probably from the hottest parts of that state. Our drawing was made in the Birmingham Horticultural Society's garden, in April. Mr. Cameron, the indefatigable curator of that establishment, informs us that it may be kept in flower during the whole year by being treated as a stove plant during winter and a greenhouse plant in summer. Soil—a sandy loam.

### DERIVATION OF THE NAMES.

SIPHOCAMPYLUS, from *σιφων* SIPHON, a tube, and *καμπυλος* KAMPULOS, curved, a mode of compounding contrary to the ordinary rules, according to which it should have been CAMPYLOSIPHON. BICOLOR, two-coloured.

### SYNONYME.

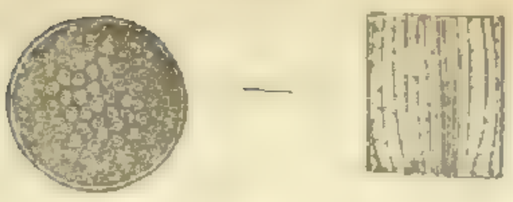
SIPHOCAMPYLUS BICOLOR. David Don, in Sweet's British Flower Garden, 2nd Series, t. 389. Floral Cabinet, t. 69.

*Maxillaria tennifolia.*

# MAXILLA'RIA TENUIFO'LIA.

## NARROW-LEAVED MAXILLARIA.

ENDOGENÆ. OR MONOCOTYLEDONEÆ.



{ Natural division to which this Plant belongs. }

## NATURAL ORDER, ORCHIDACEÆ.

GYNANDROSÆ, OF LINDLEY.

{ Artificial divisions to which this Plant belongs. }

GYNANDRIA, MONANDRIA, OF LINNEUS.

No. 140.

GENUS. Maxillaria. *Ruiz* et *Pavon*. Perigonii patentis vel conniventis foliola exteriora lateralia cum basi producta columnæ in saccum connata; interiora subconformia. Labellum cum basi producta columna articulatum, sessile, trilobum, cucullatum. Columna semiteres, aptera. Anthera incomplete bilocularis, opercularis. Pollinia duo, bipartibilia vel integra, caudiculis brevibus glandulæ transversæ affixa. Herbæ Americanæ tropicæ, epiphytæ, pseudobulbosæ, caulescentes, vel sæpius acaules, foliis plicatis vel coreaceis, pedunculis radicalibus axillaribus vel terminalibus. *Endlicher:* Genera Plantarum, p. 197.

SPECIES. Maxillaria tenuifolia. *Lindley*. Caulescens, pseudo-bulbis ovato-oblongis compressis monophyllis scapis longioribus foliis linearibus acutis recurvis, pedunculis axillaribus solitariis basi squamatis, ovario denudato arcuato floribus cernuis, sepalis ovato-lanceolatis margine revolutis subæqualibus reflexis lateralibus basi subæqualibus; petalis ovatis obtusis conniventibus, labello oblongo indiviso apice ovato reflexo infra apicem utrinque contracto, callo disco oblongo integerrimo. *Lindley*.

Character of the Genus, Maxillaria. Perigon spreading or connivent, the outer lateral divisions connate with the produced base of the column into a kind of pouch, the inner ones nearly similar. Labellum articulate on the produced base of the column, sessile, three-lobed, hood-shaped. Column semicylindrical, without wings. Anther incompletely two-celled, in the form of a lid. Pollen masses two, divisible into two or entire, fixed by short tails to the transverse gland.

Description of the Species, Maxillaria tenuifolia. Epiphyte producing leafy stems, and pseudo-bulbs of an oval-oblong compressed shape, each terminated in a single leaf. Leaves linear, pointed, keeled and folded at the base, often one to two feet long and three or four lines broad. Peduncles solitary, axillary or proceeding from the base of the pseudo-bulbs, less than an inch long, and concealed by three or four brown membranous imbricate sheathing squamæ. Ovary two inches long, curved, slender, having the appearance of a peduncle, smooth. Flowers nodding. Sepals or

outer divisions of the perigon broadly lanceolate or ovate-lanceolate, nearly an inch long, almost pointed, the margins rolled back, striate, and yellowish outside, of a rich purple inside, marked, especially in the lower part, with yellow spots and blotches. LATERAL PETALS or inner divisions similar to the sepals but smaller. POUCH or spur of the base of the flower very short and scarcely perceptible. LABELLUM attached to the base of the column by a moveable joint; rather longer than the sepals, oblong, broad, and channelled at the base, slightly contracted above the middle but not divided, the upper end bent back and blunt, nearly of the same colour as the sepals but with more yellow. COLUMN shorter than the petals, arched, convex, and yellow on the back, flat and spotted in front. ANTHER-CASE purple.

POPULAR AND GEOGRAPHICAL NOTICE. The genus Maxillaria is now become a very extensive one; the number of species enumerated by Dr. Lindley at the end of 1832 was forty, and has since been nearly doubled by the numerous collectors recently sent out in quest of epiphytes. The Maxillarias are all natives of the tropical parts of America, and most of them very showy and of easier growth than many other genera, so as to admit of their being brought into a drawing room, and being enjoyed without the oppressive atmosphere of an epiphyte house. G. B.

INTRODUCTION; WHERE GROWN; CULTURE. This species was one of the first gathered by Mr. Hartweg, collector to the Horticultural Society, after he had landed at Vera Cruz, and was one of many other quite new and showy plants he found in that neighbourhood, which one would have thought had been almost exhausted by the numerous botanists who had previously visited it, but such is the richness of that district that every fresh traveller finds something new to reward his researches. The plant was propagated and distributed, as far as circumstances admitted, by the Society; and the individual from which our drawing was taken was in a flourishing condition in the stoves of Messrs. Rollisson of Tooting. It requires the usual treatment of Orchidaceous plants—a hot humid stove during its season of growth.

### DERIVATION OF THE NAMES.

MAXILLARIA, from the comparison of the moveable labellum to a jaw, in Latin MAXILLA. TENUIFOLIA, slender-leaved.

### SYNONYME.

MAXILLARIA TENUIFOLIA. Lindley: Botanical Register, in a Note to t. 1986.

Satanga ornata

W.H. Hilton del.

# LA'LAGE ORNA'TA.

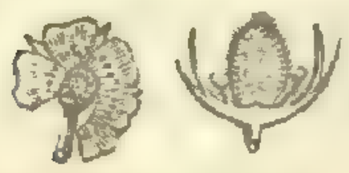
## CRIMSON LALAGE.

EXOGENÆ, OR DICOTYLEDONEÆ.

{ Natural division to which this plant belongs. }

NATURAL ORDER, LEGUMINOSÆ.

CALYCIFLORÆ OF DECANDOLLE.



{ Artificial divisions to which this Plant belongs. }

MONODELPHIA, DECANDRIA, OF LINNEUS.

No. 141.

GENUS. Lalage. *Lindley.* Calyx quinquefidus, laciniis angustis subæqualibus vel posticis altius connatis. Corollæ vexillum explanatum, orbiculatum, emarginatum alis longius; alæ oblongæ, basi longe auriculatæ; carina alis parum brevior, incurva obtusa. Stamina monadelpha, vagina postice fissa. Antheræ omnes æquales ovales oblongæ, medifixæ. Vagina disci nulla. Ovarium subsessile, villosissimum, pluriovulatum. Stylus filiformis, glaber. Stigma minutum, terminale. Legumen.....Frutices Australasici. Folia stipulata, alterna, simplicia, plana. Flores axillares, solitarii vel gemini, bracteis aridis deciduis basi imbricati.

SPECIES. Lalage ornata. *Lindley.* Foliis ovatis subtus leviter sericeis, bracteis fuscis latis obtusissimis glabriusculis, calycis laciniis posticis ultra medium connatis.

Character of the Genus, Lalage. Calyx five-cleft, the divisions narrow, nearly equal, or the two upper ones joined together higher up. Corolla papilionaceous, the standard spreading, round, emarginate. longer than the wings; the wings oblong, with a long ear at the base; the keel rather shorter than the wings, curved, blunt. Stamens monadelphous, the sheath split on the upper side. Anthers all similar, oval-oblong, attached by the centre. No sheath to the disk. Ovary nearly sessile, very hairy, with several ovules. Style filiform, smooth. Stigma minute, terminal. Pod unknown.

Description of the Species, Lalage ornata. Stem shrubby, erect, the young branches clothed with silky appressed hairs. Stipules brown, dry, lanceolate, subulate. Leaves on very short stalks, alternate, entire and simple, ovate or ovate-lanceolate, sharp, somewhat waved, rounded or somewhat heart-shaped at the base, leathery, much veined, smooth, or with a few scattered and very short hairs on the upper surface; thinly covered with appressed silky hairs underneath. Flowers axillary, one, two, or three together. Pedicels one-flowered, three or four lines long, silky, surrounded at the base by a few broad brown dry sheathing bracts, of which the outer ones are very short, the inner one nearly as long as the pedicels, broad, con-

cave, very blunt, smooth, or with a very few short silky hairs at the top. Bracteolæ two, linear, brown, silky, inserted at the base of the calyx, and nearly as long as its divisions. Calyx thickly covered with long soft silky hairs, about five lines long, the tube short, the divisions twice as long as the tube, the two upper ones connected above the middle into an upper lip, all of them ending in a soft subulate point. Standard twice as long as the calyx, of a purple red colour outside, yellow inside with a deep purple centre, in the middle of which, again, is a small yellow spot. Wings scarcely longer than the calyx, purple, as well as the keel. Pod only seen in a very young state, when it is linear, several seeded, and excessively hairy.

Popular and Geographical Notice. This lovely papilionaceous genus consists, as far as yet known, but of two species, natives of the south western extremity of the Australian continent; both species having been transmitted by Mr. Drummond amongst his dried plants from Swan River, and the present one being also found in the neighbourhood of King George's Sound. Their nearest botanical affinities are with Hovea and Bossiæa, from both of which they differ in the forms of the calyx, in the pod (as far as can be judged from the very young one), and in the sheathing bracts at the base of the pedicels. In the latter character Lalage comes near Platylobium and Scottia, but the first of these differs much in the calyx and the latter in the corolla, and both by their opposite leaves. G. B.

Introduction; Where grown; Culture. This plant was raised about the year 1833, by Mr. Knight of the King's Road, from seeds collected by Mr. William Bagster in the neighbourhood of King George's Sound. It appears to be rather more difficult to propagate than the generality of Australian papilionaceæ, for although it forms a handsome shrub and appears to flourish well in Mr. Knight's greenhouse, where our drawing was made, yet it is not known to have spread, as yet, into other collections. It is to be hoped, however, that seeds of this as well as of the second species will be found amongst those recently received from Mr. Drummond; the colour of the flowers, rather unusual among Australian papilionaceæ, and their great abundance, rendering both species very desirable acquisitions to our gardens. It requires, we believe, a very airy situation in the greenhouse.

### Derivation of the Names.

Lalage, named by Dr. Lindley in honour of a lady celebrated by Horace.

Ornata, adorned.

### Synonyme.

Lalage ornata. Lindley: Botanical Register, t. 1722.

*Styphelia tubiflora.*

# STYPHE'LIA TUBIFLO'RA.

## CRIMSON STYPHELIA,

EXOGENÆ, OR DICOTYLEDONEÆ.

{ Natural division to which this Plant belongs. }

## NATURAL ORDER, EPACRIDACEÆ.

CALYCIFLORÆ OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }

PENTANDRIA, MONOGYNIA, OF LINNEUS.

No. 142.

GENUS. Styphelia. *Smith.* Calyx quinquepartitus, bracteolis quatuor vel pluribus. Corolla hypogyna, elongato-tubulosa, tubo intus juxta basim villorum fasciculis quinque, cum limbi quinquefidi laciniis revolutis barbatis alternantibus. Stamina quinque, medio corollæ tubo inserta, longe exserta, filamentis filiformibus, antheris linearibus simplicibus incumbentibus. Squamulæ hypogynæ quinque, distinctæ vel rarius connatæ. Ovarium quinqueloculare, loculis uniovulatis, ovulo pendulo. Stylus simplex. Stigma obtusum, quinquesulcatum. Drupa subexsycca, putamine osseo solido quinqueloculari. Semina inversa. Frutices Australasici, foliis approximato-alternis brevissime petiolatis mucronatis, floribus axillaribus speciosis, pedunculis unifloris rarius bi- tri- floris. *Endlicher:* Genera Plantarum, p. 746.

SPECIES. Styphelia tubiflora. *Smith.* Foliis lineari-obovatis mucronatis supra scabriusculis margine revolutis, floribus nutantibus. *Brown:* Prodromus, p. 537.

Character of the Genus, Styphelia. Calyx five-cleft, with four or more bracteolæ at the base. Corolla hypogynous, tubular, the tube furnished inside towards the base with five bundles of hairs, which alternate with the five bearded revolute divisions of the limb. Stamens five, inserted in the middle of the tube, projecting beyond it, the filaments filiform, the anthers linear, simple, incumbent. Hypogynous scales five, distinct, or seldom connate. Ovary five-celled, with one pendulous ovule in each cell. Style simple. Stigma obtuse, with five furrows. Drupe dry, of a solid bony consistence in the centre, five-celled. Seeds inverted.

Description of the Species, Styphelia tubiflora. Shrub stiff, straggling, a good deal branched, the old stem smooth, the young branches often clothed with a short down. Leaves alternate, crowded, sessile, spreading, of a broad linear form tending to obovate, usually about half an inch long, stiff, entire, terminated by a rigid point or short spine, the margins turned downwards, the upper surface slightly rough, sometimes scarcely perceptibly so, the under marked with slight longitudinal veins. Flowers axillary, almost sessile, about an inch and quarter in length, turned downwards. Bracts six, the outer pair very minute, at the base of the very short

peduncle; the next pair a little larger, placed at its apex; the inner pair about one third the length of the calyx, which they closely embrace. CALYX about four lines long, consisting of five distinct linear-lanceolate, concave, pointed, rigid sepals, of a yellowish green colour. COROLLA crimson red, the tube about an inch long, slender at the base, broader towards the top, slightly curved, the divisions of the limb linear-lanceolate, pointed, rolled back, smooth outside, bearded inside; there are also a few hairs all down the inside of the tube as low as the bundle of hairs which are immediately above the ovary, below that the tube is smooth. HYPOGYNOUS SCALES half the length of the ovary, connate. STAMENS projecting about four lines beyond the tube, though not so long as the flower before the divisions of the limb are rolled back.

POPULAR AND GEOGRAPHICAL NOTICE. The Epacridaceæ, originally classed in the same group with Heaths, of which they are the Australian representatives, were established as a distinct and very natural family by Brown. The same author arranged the numerous species into twenty-four genera with so much acumen, that notwithstanding the numerous additions made to the Order in the lapse of nearly thirty years, only two new forms have been found not referable to any of these genera. Of all these groups, the true Stypheliæ and Epacrides are, perhaps, the only ones which can enter into competition with the Cape Heaths as objects of cultivation, but of these two, many species have, of late years, contributed greatly to ornament our greenhouses in the winter months, and early in spring. The species now figured has been compared to the old Erica tubiflora, and when well grown is not inferior to it in beauty. Like the greater number of its congeners, it is a native of the South Eastern portion of Australia, dried specimens having been frequently transmitted from the neighbourhood of Port Jackson.

INTRODUCTION; WHERE GROWN; CULTURE. This plant has existed a good many years in our collections, although not very common. As it is, however, of easy cultivation under the usual treatment of Epacridaceæ, it will probably become more frequent now that attention has been so generally called to that group. Drawn from a plant in the choice collection of G. Glenny, Esq.

### DERIVATION OF THE NAMES.

STYPHELIA, from στυφελος, STUPHELOS, harsh, hard, or firm; expressive of the habit of the genus. TUBIFLORA, tube-shaped flowers.

### SYNONYMES.

STYPHELIA TUBIFLORA. Smith: Botany of New Holland, p. 45, t. 14.

*Echites suberecta*

# ECHI'TES SUBEREC'TA.

## SUBERECT ECHITES.

EXOGENÆ. OR DICOTYLEDONEÆ.

Natural division to which this Plant belongs.

## NATURAL ORDER, APOCINACEÆ.

COROLLIFLORÆ OF DECANDOLLE.

Artificial divisions to which this Plant belongs.

PENTANDRIA, MONOGYNIA, OF LINNEUS.

No. 143.

GENUS. Echites. *R. Brown.* Calyx quinquepartitus. Corolla hypogyna, hypocraterimorpha vel infundibuliformis, fauce tuboque esquamata, limbi quinquepartiti laciniis inæquilateris. Stamina quinque corollæ tubo vel fauci inserta, inclusa; antheræ sagittatæ, medio stigmati cohærentes, appendicibus polline destitutis. Ovaria duo, ovulis ad suturam neutralem plurimis. Stylus unus, filiformis; stigma pentagonum, apice connico. Squamulæ hypogynæ quinque, liberæ vel rarius connatæ. Folliculi graciles. Semina plurima, ad umbilicum comosa. Frutices sæpius volubiles, rarius suffrutices erecti plerumque lactescentes, in America et Asia tropica crescentes; foliis oppositis, ciliis in nonnullis interpetiolaribus glandulosis, floribus ut plurimum speciosis, albis, luteis vel purpureis. *Endlicher:* Genera Plantarum, p. 583.

SPECIES. Echites suberecta. *Jacquin.* Foliis oblongis mucronatis subtus pubescentibus, racemis multifloris, corolla extus hirsuta. *Sprengel.*

Character of the Genus, Echites. Calyx five-parted. Corolla hypogynous, salver- or funnel-shaped, the throat and tube devoid of scales, the segments of the five-parted limb inequilateral. Stamens five, inserted either on the tube or throat of the corolla, in which they are inclosed; anthers arrow-shaped, cohering to the middle of the stigma, the appendages devoid of pollen. Ovaries two, ovules numerous, attached to the ventral suture. Style one, filiform. Stigma five-cornered, conical at the apex. The fine hypogynous little scales free, or rarely connate. Follicles slender. Seeds numerous, comose at the umbilicus.

Description of the Species, Echites suberecta. A shrub, varying in height from three feet to ten; climbing, but scarcely twining; when tall, reclining or deflexed, if it meet with no supports. Stem smooth, round. Leaves opposite, articulate with the stem; petiole about half an inch in length, slightly twisted, lamina oblong, mucronate, generally smooth on both surfaces, occasionally pubescent below, dark green on the upper surface, lighter on the under. Inflo-

RESCENCE axillary. PEDUNCLES many-flowered, pedicels supported by a lanceolate bract. CALYX deciduous, five-parted segments lanceolate. COROLLA yellow, tube cylindrical, equal in length to the segments of the calyx; throat campanulate, ventricose; limb of five segments, round, unequal, or oblique. GLANDS oblong, concave, as long as the ovary. STAMENS five, filaments short, inserted into the tube or at the origin of the throat; anthers sagittate, with long filamentous appendages. STYLE one; stigma five-cornered; ovary ovate, many-seeded. FOLLICLES slender, round, obtuse, when ripe brownish. SEEDS oblong, acuminate at both ends, comose at the hilum.

POPULAR AND GEOGRAPHICAL NOTICE. This plant grows in Jamaica, even close to the town of Kingston; but much more abundantly in the vast savannahs; and also on dry heaths exposed to the sea, in St. Domingo. It must likewise grow in South America, if the statement of Sells be correct, that it forms the basis of the celebrated poison called Woorari or Wooraly. It appears, however, from the researches of Schomburgk that the Strychnos toxifera is the chief ingredient of that compound. Echites suberecta may nevertheless be also used, for it possesses very formidable qualities. The whole plant abounds with a white milky juice, of which two drachms killed a dog in eight minutes—nay, even some of the flowers which had fallen into a water-trough imparted such noxious properties to it, that several mules which drank of it were destroyed. Great care should, therefore, be taken not to allow any of the juice to touch a scratch or wound, or to approach the eyes.

INTRODUCTION; WHERE GROWN; CULTURE. Known in Britain since 1759, but not extensively cultivated, which may be owing to its poisonous properties. The estivation of the flowers is particularly worthy of inspection. It requires the stove, and grows freely in a mixture of loam and peat. Cuttings strike root readily under a hand-glass, in sand. Drawn in August, in the stove of the Messrs. Pope, of Handsworth, Staffordshire.

### DERIVATION OF THE NAMES.

ECHITES, from Ἐχίς, ECHIS, a viper or snake, the smooth twining shoots resembling the coils of such an animal. SUBERECTA, from the nearly upright character of the plant.

### SYNONYMES.

ECHITES SUBERECTA. Jacquin: Americanæ 32, t. 26, and small edition p. 42. Swartz: Observ. 104. Willdenow: Species Plant. I, p. 1238. Bot. Mag. 1064. Sprengel: Species Plantarum I, p. 633.

*Nicotiana Tabacum*

# ABU'TILON STRIA'TUM.

## STRIATED ABUTILON.

EXOGENÆ, OR { Natural division to which this Plant belongs. } DICOTYLEDONEÆ.

## NATURAL ORDER, MALVACEÆ.

THALAMIFLORÆ, DECANDOLLE. { Artificial divisions to which this Plant belongs. } MONADELPHIA, POLYANDRIA, OF LINNEUS.

No. 144.

GENUS. ABUTILON. *DILLENIUS.* CALYX quinquefidus ecalyculatus, persistens. PETALA quinque, hypogyna, æqualia patentia. STAMINA crebra, monadelpha; tubo stamineo unguibus petalorum adnato. ANTHERÆ reniformes, uniloculares. OVARIUM superum, 5 multiloculare; ovula tria, rarius plura, in quolibet loculo, axi centrali affixa, sub-uniseriata. STYLI tot quot loculi. STIGMATA capitellata. CAPSULA penta-polycocca; coccis tri- rarius 4-6 spermis, bivalvibus. Arbores frutices aut herbæ. FOLIA alterna, cordata, integra, rarissime obsolete lobata. STIPULÆ petiolares geminæ. PEDUNCULI axillares, solitarii, rarius gemini, uni- bi- aut multi-flori, interdum spicæ terminales. COROLLÆ flavæ, albidæ aut purpureæ. *KUNTH*: in Humboldt et Bonpland. Nova Genera et species Plantarum, Vol. V, p. 210.

SPECIES. ABUTILON STRIATUM. *DICKSON.* FOLIIS trilobis serratis glabriusculis basi subcordatis: lobis acuminatis; pedunculis capillaribus longissimis, floribus campanulatis, petalis retusis, stylis octo. *LINDLEY*: Mis. No. 53.

CHARACTER OF THE GENUS, ABUTILON. CALYX five-cleft, destitute of an involucre (or external series of bracts resembling a lesser calyx,) persistent. PETALS 5, hypogynous, equal, spreading. STAMENS numerous, monadelphous; tube of the stamens adhering to the base of the petals. ANTHERS kidney-shaped, one-celled. OVARY superior, 5- or many-celled. OVULES three, seldom more, in each cell, attached to the central axis, and generally in a single row. STYLES corresponding in number with the cells. STIGMAS capitulate. CAPSULE formed of 5 or more cocci; each coccus 3, seldom 4-6-seeded, splitting into two valves.

DESCRIPTION OF THE SPECIES, ABUTILON STRIATUM. STEM about four feet high, scarcely shrubby, smooth, glaucous, branched, branches slender. LEAVES alternate, stipulate, petiolate, smooth, about two inches long, subcordate at the base, lobed, lobes acute, unequally toothed. FLOWERS axillary, solitary, pedunculate, peduncles longer than the leaves, at first erect, afterwards deflexed, flowers consequently drooping. CALYX somewhat angular, 5-cleft, segments lanceolate, acute. COROLLA campanulate, petals 5, blunter than the

segments of the calyx, of an orange ground, marked with numerous crimson-branched veins, when fully blown curving backwards. STAMENS numerous, monadelphous: anthers red, apparently one-celled. STYLES eight, projecting beyond the stamens, stigmas capitate.

POPULAR AND GEOGRAPHICAL NOTICE. This very handsome plant is a native of the southern part of Brazil, and appears to have rather an extensive range, as it has been met with both on the Organ Mountains, by Mr. Gardner, and the Rio Negro in the Banda Oriental, by Mr. Tweedie. It approximates in character to the Abutilon elegans of the Plantes Usuelles de Brasil. of Auguste St. Hilaire, but differs in habit from most other Abutilons. Our drawing having been made in very wet weather the flowers were imperfectly expanded, as like most of its kindred it is very markedly influenced by the state of the atmosphere, particularly of the light. The genus Sida, from which Abutilon has been separated, comprises, if we include Bastardia, Gaya, and Abutilon (as is still done by Decandolle and others) about 200 species, many of which are accustomed to unfold their flowers at such stated hours that Bory de St. Vincent asserts, that from the single genus Sida, a Dial of Flowers (Horologium Floræ) might be constructed, so accurate, that between the tropics the hour of the day might be ascertained by means of it. The leaves of some of the species exhibit perceptible changes of position, those, for example, of the Sida Abutilon (Linneus) fall close to the stem, and seem to protect it against the night air. A similar action may be observed even during the day, in the large leaves of the Hedysarum (Desmodium) gyrans; for, should dark clouds suddenly overspread the sky, they will immediately fall down and cover the stem as with a mantle.

INTRODUCTION; WHERE GROWN; CULTURE. Introduced about two years ago into the Glasgow Botanic Garden, most likely by seeds from Mr. Tweedie. Our drawing was made in the month of March last, from a plant in the possession of Miss Trail, of Hayes Place, Kent, to whose extreme courtesy we are indebted for the opportunity of figuring it. It requires the greenhouse only, and is of the easiest culture, growing very freely, and being constantly covered with its elegant flowers during the greater part of the year.

### DERIVATION OF THE NAMES.

ABUTILON, from the Arabic name of a malvaceous plant. STRIATUM, striated, from the striped appearance of the flowers.

### SYNONYME.

ABUTILON STRIATUM. Lindley in Miscellaneous Notices of No 53, Botanical Register.

*Camellia Japonica.*

# CAMEL'LIA JAPON'ICA.

Variety: Donckelæri.

## DONCKELÆR'S JAPAN CAMELLIA.

EXOGENÆ, OR DICOTYLEDONEÆ.

{ Natural division to which this Plant belongs. }

### NATURAL ORDER, CAMELLIACEÆ.

THALAMIFLORÆ, OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }

MONADELPHIA, POLYANDRIA, OF LINNEUS.

No. 145.

GENUS. Camellia. *Linnæus.* Calyx imbricatus, nempe bracteis sepalisve nonnullis accessoriis cinctus. Stamina basi polyadelpha vel monadelpha. Antheræ ellipsoideæ. Capsula valvis medio septiferis, axim triquetrum liberum post dehiscentiam relinquentibus. *Decandolle:* Prodromus Systematis Universalis Regni Vegetabilis I, p. 529.

SPECIES. Camellia japonica. (*Linnæus.*) Foliis ovatis acuminatis acutè-serratis, floribus terminalibus subsolitariis. Ibid.

Character of the Genus, Camellia. Calyx imbricated, that is, surrounded by some accessory bracts or sepals. Stamens either poly- or mon- adelphous at the base. Anthers elliptical. Capsule having the valves with the septa in the middle, and leaving after the dehiscence a free three-sided axis.

Description of the Species, Camellia japonica, Variety Donckelæri. A shrub of several feet in height, branched, branches spreading. Leaves alternate, petiolate, persistent, rigid, ovate, acute, serrated, dark green on both sides. Flowers axillary and terminal. Calyx of several imbricated sepals, light green, marked externally with several veins converging towards the apex. Corolla of numerous large petals, round, spreading, notched or slightly emarginate, of a rich red or crimson ground, blotched in a very remarkable manner with white irregular spots. Stamens numerous, monadelphous; filaments and anthers yellow. Style one.

Popular and Geographical Notice. The genus Camellia is limited to Asia, and the least known species are natives of China and Japan. They have long been favourite subjects of cultivation in the former country, where they sometimes form trees, forty feet high, covered, from October to April, with flowers exhibiting the most perfect symmetry. Numerous varieties are produced in China, as well as by cultivators in our own country, and the one represented in our plate is considered an original Japan variety. It certainly is one

of the most striking which has yet been seen, and possibly may have been produced by the pollen of one of the white-flowered varieties fertilizing the seed of a red-flowered one. A singular Dahlia has lately been produced, most likely by similar means, in which the petals are blotched after the same fashion as those of this Camellia. R. D.

INTRODUCTION; WHERE GROWN; CULTURE. This interesting variety was introduced by seeds brought from Japan by Siebold, and raised in the gardens of Belgium, whence it was imported into this country, first, we believe, by Mr. Knight of Chelsea, about 1834. The specimen from which our drawing was made grew in the magnificent collection of Mr. Chandler, of the Vauxhall Nursery, to whom we are indebted for the opportunity of figuring it.

It requires the ordinary treatment of its kindred, which is commonly that of the conservatory. In the southern part of the island, it may be planted out in the open border against a north-west wall, or even as a standard. When young it will require matting for a few winters, but so soon as its roots have taken a firm hold, it needs no protection, save just before going into flower. Most Camellias will be found to prosper more in the open ground or in the border of a conservatory than in pots, in which the roots are extremely apt to get matted. Excessive heat in winter is very injurious to them. The first Camellias imported into this country by Lord Petre, about 1739, were destroyed by being treated as stove plants, and fresh plants were again procured in 1742. We are too apt to fancy that every plant which comes from China or Japan, and still more from Brazil, must be kept in a high temperature, forgetting that a large portion of China is covered with snow for a considerable portion of the year, the rivers frozen for months, and that the mean annual temperature of Peking is 9° lower than that of Naples, chiefly owing to the extreme and prolonged cold of the dry or winter season. The chief obstacle to having as handsome and perfect plants in our shrubberies as are met with in China, arises from the deficiency of heat and light in our summers to harden the wood of the new shoots, without which they never flower freely. Mr. Loudon gives a list of several varieties of the Camellia japonica, which have been planted out against a north-west wall in Chandler's Vauxhall Nursery, in the order of their hardiness, accompanied with a plan for the formation of a Camellia garden. (See Loudon's Arboretum Britannicum, p. 381-9 and 392.

### DERIVATION OF THE NAMES.

CAMELLIA, in compliment to George Joseph Camellus, or Kamelli, a Moravian Jesuit, and traveller in Asia, author of a History of the Plants of the Island of Luzon. JAPONICA, from Japan. DONCKELÆRI, after the head gardener of the Botanic Garden of Louvain.

### SYNONYME.

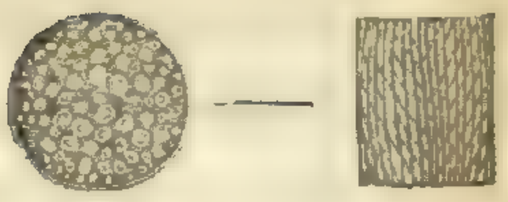
CAMELLIA JAPONICA, VARIETY DONCKELÆRI. Lindley: in Botanical Register, t. 1854.

*Huntleya meleagris*

# HUNTLEY'A MELEA'GRIS.

## CHEQUERED HUNTLEYA.

ENDOGENÆ, OR MONOCOTYLEDONEÆ.

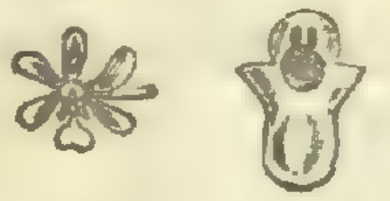


{ Natural division to which this plant belongs. }

## NATURAL ORDER, ORCHIDACEÆ.

GYNANDROSÆ, OF LINDLEY.

{ Artificial divisions to which this Plant belongs. }



GYNANDRIA, MONANDRIA, OF LINNEUS.

No. 146.

GENUS. HUNTLEYA. *BATEMAN*. PERIANTHIUM explanatum, subæquale, sepalis lateralibus basi antice involutis vix obliquis. LABELLUM planum unguiculatum, rhomboideum, patens, basi longe fimbriatum, cum basi libera producta columnæ articulatum. COLUMNA clavata, apice cucullata, margine alata. ANTHERA bilocularis mutica. POLLINIA quatuor. HERBÆ Americæ tropicæ, caulescentes, foliis ligulatis distichis, floribus axillaribus. *LINDLEY*.

SPECIES. HUNTLEYA MELEAGRIS. (*LINDLEY*.) Sepalis petalisque ovatis acuminatis tessallatis, labello subconformi unguiculato concavo cresta baseos fimbriata, columnæ cucullo crenato. *LINDLEY*,

CHARACTER OF THE GENUS, HUNTLEYA. PERIANTH spreading, nearly regular, the lateral outer divisions bent in at the base on the lower side and scarcely oblique. LABELLUM flat, borne on a claw, rhomboidal, spreading, with a long fringe across the base on the upper side, articulate with the free produced base of the column. COLUMN club-shaped, spreading at the top into a hood, winged on the edge. ANTHER two-celled, without appendages. POLLEN MASSES four.

DESCRIPTION OF THE SPECIES, HUNTLEYA MELEAGRIS. STEM short, emitting a number of white roots at the base, without pseudo-bulbs. LEAVES densely arranged in two opposite rows, broadly lanceolate, above a foot in length, pointed, with a strong midrib underneath, folded nearly in their whole length, especially at the base. PEDUNCLE erect from the lower axillæ, rather shorter than the leaves, bearing one or two bracts near the middle. FLOWER solitary, at the top of the peduncle, three or four inches in diameter, the five divisions of the perigon nearly similar to each other, ovate lanceolate, pointed, somewhat undulate on the margin, of a claret colour on the upper side, especially towards the extremity, pale yellow towards the base, where they terminate in a broad short white claw; they are also marked with slight longitudinal furrows, and according to Dr. Lindley these

lines are sometimes intersected by other transverse ones, so as to give the flower the appearance of a draught board; but in cultivation these chequers gradually disappear. The two lower divisions are rolled inwards on their lower margin towards the base. LABELLUM half the size of the petals, nearly of the same form, white, tipped with claret and tinged with pink, with a narrow white claw, at the base of which is a crescent-shaped plate, fringed with long stiff yellowish hairs. COLUMN of a yellowish white, expanding into a hood nearly as broad as the labellum.

POPULAR AND GEOGRAPHICAL NOTICE. The genus Huntleya was first established by Mr. Bateman for one of Schomburgk's Demerara Orchidaceæ, to which Dr. Lindley in adopting the genus, added the present Brazilian species. The affinity of these plants to the Zygopetala, from which they only differ by the expanded column, is considered by Lindley as perhaps too close; yet as far as hitherto known there do not appear to be any connecting species, and we must therefore await further discoveries to determine the point. The species, according to the same author, is found in damp gloomy woods on the banks of the Rio de Pirapatinga, in the district of Bananal, and on the high mountains separating the provinces of St. Paul's and Minas Geraes in Brazil.

INTRODUCTION; WHERE GROWN; CULTURE. This is one of the numerous importations of Messrs. Rollisson, who first flowered it in their epiphyte house at Tooting, in July, 1838. It is of vigorous growth, and valuable for its rarity and the singular colouring of its flowers, although less splendid than some others. It grows freely in the damp stove, where the temperature, in summer, ranges from 70 to 90 degrees of Fahrenheit; and in winter about 20 degrees lower. Shade in summer, with frequent syringing, will greatly encourage its luxuriant growth.

### DERIVATION OF THE NAMES.

HUNTLEYA, named by Mr. Bateman in honour of the Rev. J. T. Huntley, a zealous cultivator of Orchidaceæ and other rare plants. MELEAGRIS, so called on account of the chequered surface of the petals in the flowers first described.

### SYNONYMES.

HUNTLEYA MELEAGRIS. Lindley: Botanical Register, 1839, t. 14.

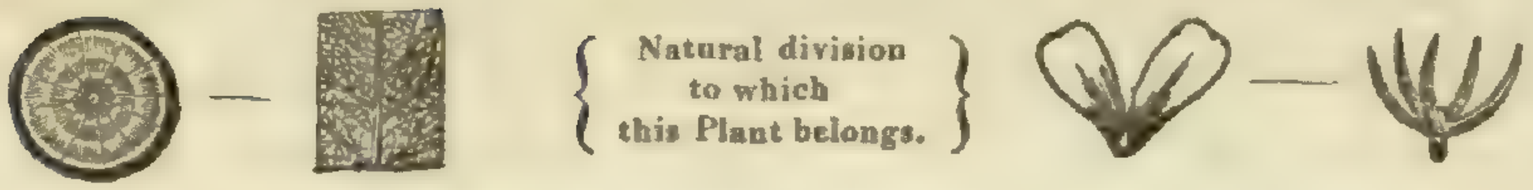
W. Withers del

Pimelea virens

# PIMELE'A INCA'NA.

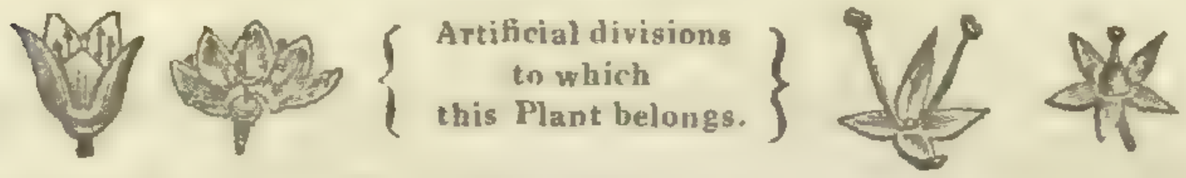
## HOARY PIMELEA.

EXOGENÆ, OR DICOTYLEDONEÆ.




NATURAL ORDER, THYMELACEA.

MONOCHLAMYDEÆ, OF DECANDOLLE.




DIANDRIA, MONOGYNIA, OF LINNEUS.

No. 147.

GENUS. Pimelea. *Banks* et *Solander*. Flores hermaphroditi vel dioici. Perigonium coloratum, infundibuliforme, limbo quadrifido, fauce esquamata. Stamina duo fauci inserta, peregonii laciniis exterioribus oppositа, exserta. Squamulæ hypogynæ nullæ. Ovarium uniloculare. Ovulum unicum, pendulum, anatropum. Stylus lateralis. Stigma capitatum. Nux corticata, raro baccata. Semen inversum. Albumen parcum, carnosum. Embryo orthotropus. Frutices Australasicæ. Folia opposita vel rarissime alterna. Flores capitati, terminales, involucrati, rarius spicati vel axillares. *Endlicher:* Genera Plantarum, p. 330.

SPECIES. Pimelea incana. (*Brown.*) Foliis ovatis orbiculatisve margine recurvis subtus ramisque tomentoso-pubescentibus incanis, floralibus similibus capitulo parum brevioribus.

Character of the Genus, Pimelea. Flowers hermaphrodite or dicœcious. Perigon coloured, funnel-shaped; the limb four-cleft; the throat without scales. Stamens two, inserted in the throat opposite the outer divisions of the perigon, projecting beyond the tube. Hypogynous scales none. Ovary one-celled. Ovule solitary, pendulous, anatropous. Style lateral. Stigma capitate. Nut of a bushy consistence, or rarely a berry. Seed inverted. Albumen scanty, fleshy, Embryo orthotropous.

Description of the Species, Pimelea incana. A much branched shrub of several feet in height, the branches round and more or less covered with a whitish down which is thicker and longer on the young branches, and often forms a thick tuft at the origin of the leaves; in the longer and more rigorous branches it is much thinner and looser. Leaves opposite, almost sessile, varying from orbicular to ovate, and from three to six lines in length, very blunt, convex with the edges turned down, thick, quite smooth on the upper surface, covered underneath with a thick whitish down like that of the branches; the distance between the pairs of leaves about equal to their length, or longer; the floral leaves similar to those of the stem, and rather shorter than the flowers. Heads of flowers compact,

terminal, nearly globular, about three quarters of an inch or nearly an inch in diameter. Flowers numerous, sessile, on a receptacle clothed with long dense white hairs. Perigon of a pale pink or nearly white colour, very downy, the tube about five lines long, the lower persistent part a little swollen; the divisions of the limb oblong, blunt, about a line and a half long. Stamens about the length of the divisions of the perigon, perfectly smooth as well as the inside of the perigon.

Popular and Geographical Notice. The numerous genus Pimelea appears to extend over the whole of the Australian continent and Van Dieman's Land, some species having been brought from almost every part hitherto discovered, and almost every collection transmitted to this country adds one or more new ones. It is also represented by some species in New Zealand. As a genus, the group is perfectly distinct, for although allied in habit and in the structure of the flower to some Daphnes, or others belonging to the same natural order, the constant reduction of the number of stamens to two is a sure and easy character, independently of the geographical station. The species here figured is a common Van Dieman's Land plant, though scarce in our greenhouses; it is very near to the Pimelea nivea of Labillardiere, with which it has been sometimes confounded, too much reliance having been placed on the form of the leaf which varies in both from ovate to orbicular. The true plant of Labillardiere appears to be of taller growth; the leaves are much more crowded, and the down of the branches and under side of the leaves is closer and thicker, not having at all the appearance of hairs without the assistance of a glass. It is not, however, at all improbable that the two supposed species may be mere varieties of each other,

Introduction; Where grown; Culture. The Pimelea incana is said to have been first introduced into this country in 1824, but although seeds of it have frequently been imported of late years, it is as yet very scarce in our collections. The plant here figured was raised at Messrs. Lowe's Nursery, at Clapton. Planted in sandy peat and loam, and kept in a light part of the greenhouse, it will flower abundantly.

### Derivation of the Names.

Pimelea, said to be derived from *πιμελη* pimele, fat, but the application is not very clear. Incana hoary.

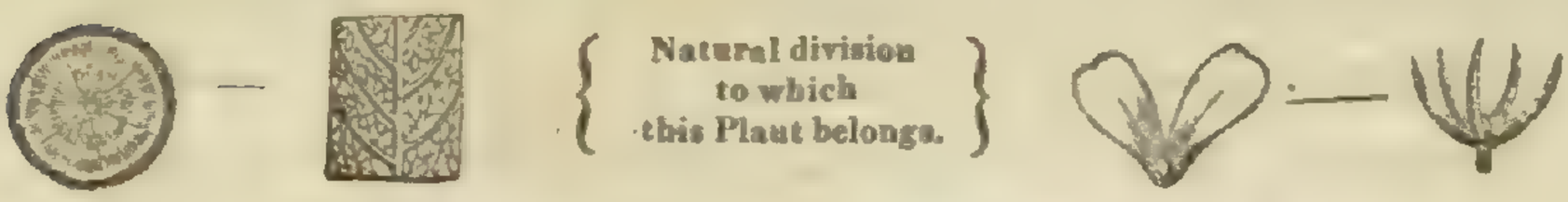
### Synonymes.

Pimelea incana. Brown: Prodromus, p. 361.
Pimelea nivea. Knowles: Floral Cabinet, t. 9, not of Labillardiere.

# LISIAN'THUS RUSSELLIA'NUS.

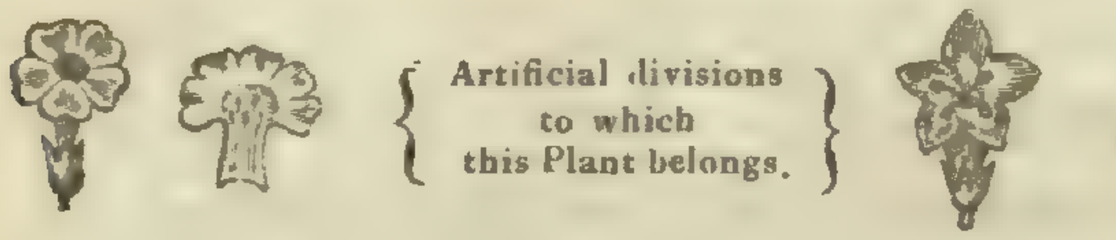
## DUKE OF BEDFORD'S LISIANTHUS.

EXOGENÆ. OR DICOTYLEDONEÆ




NATURAL ORDER, GENTIANACEÆ.

COROLLIFLORÆ OF DECANDOLLE.




PENTANDRIA, MONOGYNIA, OF LINNEUS.

No. 148.

GENUS. Lisianthus. *P. Browne.* Calyx campanulatus, quinquefidus, laciniis erectis, margine membranaceo tenerioribus. Corolla hypogyna, infundibuliformis, marcescens, tubo hinc inæquali vel ventricoso, limbo quinquefido. Stamina quinque, imo corollæ tubo inserta, inclusa vel limbum æquantia; filamenta basi æqualia, sæpissime inæquilonga; antheræ incumbentes, plerumque apice demum revolutæ, longitudinaliter dehiscentes. Ovarium valvularum marginibus introflexis plus minus completè biloculare. Ovula in placentis valvularum margines occupantibus plurima. Stylus filiformis; stigma bilamellatum. Capsula valvularum marginibus placentiferis introflexis bilocularis vel semibilocularis, bivalvis, Semina plurima. Herbæ vel suffrutices Americæ tropicæ, erecti, glabri; caule tetragono, simplici vel superne ramoso, foliis oppositis, decussatis, breve petiolatis vel sessilibus, petiolis sæpius in vaginam brevissimam commissis, sæpe marginatis, tri quinquenerviis, floribus axillaribus vel terminalibus, racemosis, racemis bifidis cum flore alari, vel dichotomis aut paniculatis, corollis purpureis, rubicundis, cæruleis vel luteoviridibus. *Endlicher:* Genera Plantarum, p. 603.

SPECIES. Lisianthus Russellianus. (*Hooker*) Foliis ovatis acutissimis 3-5-nervis, floribus paniculatis, calycibus profundè partitis, laciniis longissime subulatis, corolla quinque-partita campanulato-infundibuliformi, laciniis late obovatis patentibus.

Character of the Genus, Lisianthus. Calyx campanulate, five-cleft, segments erect, thinner than the membranaceous margin. Corolla hypogynous, funnel-shaped, marcescent; tube unequal or ventricose; limb five-cleft. Stamens five, inserted into the base of the tube of the corolla, and included in it, or equalling the limb in length. Filaments equal at the base where they originate, but often unequal in length. Anthers incumbent, generally becoming revolute at the apex, dehiscing longitudinally. Ovary, owing to the margins of the valves being curved inwards, becoming more or less completely two-celled. Ovules numerous, placed on placentæ occupying the margins of the valves. Style filiform. Stigma consisting of two plates. Capsule two- or nearly two-celled, owing to the placentiferous margins being bent inwards, becoming two-valved. Seeds numerous.

Description of the species, Lisianthus Russellianus. An herbaceous plant, glaucous and smooth in every part. Stem two feet high, rounded, generally simple, or having a few opposite

branches. LEAVES opposite, connate at the base, almost perfoliate, lower ones ovate and acute, upper ones linear-lanceolate and very acute, ultimately becoming subulate bracts at the bifurcation of the peduncles. INFLORESCENCE panicled. FLOWERS very large, handsome, spreading, of a lilac colour with a dark brown or deep purple eye in the centre. PEDICELS long, furnished with two bracts. CALYX deeply five-parted, segments erect, long, narrow, awl-shaped. COROLLA with a short funnel-shaped tube, and large expanded limb, segments obovate, bluntly pointed. STAMENS five, filaments as long as the tube of the corolla, anthers large, yellow. OVARY oblong, equalling the style in length, somewhat club-shaped; stigma of two large spreading plates, clothed with a velvet pubescence.

POPULAR AND GEOGRAPHICAL NOTICE. This truly superb annual was found near San Felipe de Austin, in Texas, by Drummond, and was one of the last contributions to our gardens of that zealous collector, whose memorandum respecting it deserves to be recorded. He accompanied the seeds with the remark, "not excelled in beauty by any plant;" an opinion which when in full flower it amply justifies. It appears to have a considerable geographical range in the warmer parts of North America, as it has been found at Nouveau Leon, Monterey, Mexico, and on the great Salt River, Arkansas. The majority of the species of the genus Lisianthus are, however, natives of the tropical regions of America. Like most of the genera in this order they are very bitter, and may be useful when bitter remedies are needed. R. D.

INTRODUCTION; WHERE GROWN; CULTURE. To the condescension of his Grace the Duke of Northumberland we are greatly indebted for the favour of an opportunity of figuring this, and several plants of the first rarity, which have lately flowered at his Grace's princely abode, Sion House. Seeds of the Lisianthus Russellianus were brought into this country in 1835. It requires the common treatment of half-hardy annuals.

## DERIVATION OF THE NAMES.

LISIANTHUS, λισσος LISSOS, smooth, and ανθος ANTHOS, a flower. RUSSELLIANUS, in honour of his Grace the Duke of Bedford, whose aid, imparted to Drummond at the time when his closing hours needed such succour, well entitles him to the honour of this particular plant being called after him, even if his many and valuable services to botany and horticulture did not point to him as deserving the homage of botanists.

Since the above was written the noble Duke has gone to his rest.

——"Manibus date lilia plenis
Purpureos spargam flores animamque —
His saltem accumulem donis et fungar inani
Munere."

## SYNONYME.

LISIANTHUS RUSSELLIANUS. Hooker: in Botanical Magazine, t. 3626.

Drawn by Mrs. Mounsey del.

Caesalpinia pulcherrima.

Lovett sculp.

Size of Nature

# CÆSALPI'NIA PULCHER'RIMA.

## BARBADOES CESALPINIA.

EXOGENÆ, OR DICOTYLEDONEÆ.

{ Natural division to which this plant belongs. }

NATURAL ORDER, LEGUMINOSÆ.

CALYCIFLORÆ, OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }

DECANDRIA, MONOGYNIA, OF LINNEUS.

No. 151.

GENUS. Cæsalpinia. *Linnæus.* Calyx profunde 5-partitus tubo brevi turbinato v. clavato, laciniis quatuor ovatis oblongis spathulatisve subæqualibus, quinto infimo concavo-carinato majore, æstivatione imbricativa. Corollæ petala quatuor parum inæqualia, obovata vel spathulata, breviter unguiculata, quintum supremum multo minus, longe unguiculatum. Stamina decem, libera incurva, parum inæqualia, omnia antherifera, filamentis basi villosis. Ovarium sessile vel breviter stipitatum, pluriovulatum. Stylus filiformis. Stigma obtusum, tenue. Legumen sessile vel breviter stipitatum, oblongum, plano-compressum, exalatum, sutura seminifera prope basim, inferiori prope apicem, convexa. Semina oblonga ovata vel orbicularia, compressa, estrophiolata. Arbores fruticesve nonnunquam scandentes. Folia abrupte bipinnata, pinnis foliisque oppositis. Flores racemosi.

SPECIES. Cæsalpinia pulcherrima. (*Swartz*) Caule fruticoso pinnis 5-10-jugis, foliolis 8-12-jugis obovato-oblongis retusis, petalis margine crispis, staminibus corolla plus duplo longioribus, ovario glabro.

Character of the Genus, Cæsalpinia. Calyx deeply five-cleft, the tube short, broader at the apex; four divisions ovate oblong or spathulate, and nearly equal to each other, the fifth lower one larger, concave, and overlapping the others. Petals four, nearly equal, obovate or spathulate, with short claws, the fifth upper one much smaller, with a long claw. Stamens ten, free, curved, somewhat unequal in length, all bearing anthers; filaments hairy at the base. Ovary sessile or borne on a short stalk, with many ovules. Style filiform. Stigma obtuse, thin. Legume sessile, or borne on a short stalk, oblong, flat, without wings, the upper edge convex near the base, the lower one near the apex. Seeds oblong, oval or round, flattened, without any strophiola.

Description of the species, Cæsalpinia pulcherrima. Shrub of about twelve feet high, with a smooth greyish bark, and usually furnished with a short hooked spine at each ramification. Leaves alternate, a foot to two feet long, consisting of from five to ten pairs of opposite pinnæ, each pinna composed of from eight to twelve pairs of opposite leaflets, each leaflet oblong or obovate, retuse, of a pale

green, perfectly smooth; at the base of each pinna is usually a small stipellary spine, and at the base of each leaflet a minute setaceous stipella, which is also occasionally slightly spinescent. Flowers in long loose terminal racemes. Pedicels from one to three inches long, somewhat glaucous as well as the axis, and usually furnished at the base with a small spinescent bract, but bearing no bracteolæ. Calyx smooth, the divisions reddish and somewhat waved on the margin, about half the length of the petals. Petals of a rich orange scarlet, the four larger ones three quarters of an inch long, broadly obovate, waved on the edges, and narrowed into a claw; fifth petal on a long stiff thick claw, with a very small, round, waved lamina. Stamens more than twice the length of the corolla, crimson, thread-like, slightly dilated and hairy at the base. Ovary perfectly smooth, on a short stalk, linear, terminating in a long filiform style. Pod about three inches long, smooth, and flat, opening in two valves, and fitted between the seeds with a cellular substance dividing it into several cells.

Popular and Geographical Notice. This beautiful shrub, which appears to grow wild in the tropical regions of both hemispheres, is at any rate common in all civilised parts of the tropics, in hedges and gardens, of which it is one of the greatest ornaments. In the West Indies, where it is most abundant, it is one of the most usual hedge shrubs, and is also used medicinally instead of Senna.

Deserving, however, as this plant is of the specific name pulcherrima, there are many others of the same genus, or those lately separated from it, which it would be highly desirable to introduce into our conservatories, now that by the increased size and light given to these buildings there is a hope of seeing them flower. There are few species with the flowers so large as the present one, but judging from dried specimens this is fully made up, especially in some of the American ones, by their great profusion. Most of them require perhaps stove heat, but some, especially the Coulterias, are far from being so tender. At Barcelona, some years since, in a half abandoned botanic garden, was a beautiful tree of Coulteria tinctoria, thriving, in spite of neglect, in the open air, together with Schinus molle, some Cassias, and many other trees of the class of those which require with us the protection of a wall in winter.

There is a considerable difficulty in the present state of our knowledge of the immediate allies of the Cæsalpinia pulcherrima, in fixing precisely the genus in which it should be included. It has been usual,

after Linneus, to distinguish, under the name of Poinciana, those plants which differ from Cæsalpinia by the great length of the stamens, and by the pod being filled with a cellular substance between the seeds; but amongst the number of species now known, there are so many different degrees of length in the stamens, that it is impossible to fix any precise dimensions for those of each genus, and the cellular substance in the pod appears to exist in others besides the supposed Poincianas, and at any rate it is one of the characters of the least generic importance amongst those derived from the pod in Leguminosæ. Swartz, aware of the great affinity of Linneus's Cæsalpinia and Poinciana, united the latter genus to the former, first giving to the present species the name under which it is here figured. Since then many other plants have been, by various authors, first referred to the one, then to the other group, the arrangement of which is at present in the greatest confusion. It is most probable that there are several distinct genera to be formed. Thus the Poinciana elata of Linneus, an East Indian plant, and the Arabian one, to which Forskahl gives the same name, although in fact a different species, form together a genus really characterized by the peculiar calyx, and other points, and these might retain the name of Poinciana. So the Cæsalpinia Brasiliensis of Linneus, or Brasiletto of the West Indies (of which there appear to be two species) upon which De Candolle formed his section Brazilettia, has a pod too remarkable not to raise it to the rank of a genus, and perhaps the sections Nugaria and Libidibia of the same author might share the same fate The remaining section Sapponia contains many plants very dissimilar from each other, but it would require a much more detailed examination of flower and fruit than we at this moment possess materials for, to settle finally the value of these differences. G. B.

Introduction; Where grown; Culture. This elegant species is said to have been first introduced into our stoves towards the close of the seventeenth century, and well deserves a place in all good collections. For the loan of the plant from which our drawing was made we are greatly indebted to the polite attention of J. Jarrett, Esq. of Camerton Court, Somersetshire, whose liberality we have previously had occasion to acknowledge, and we do so under a deep sense of the obligation under which we are placed. The individual specimen with which we were so favoured was of extraordinary luxuriance, and reflects the highest credit on Mr. Robert Abbott, the gardener at Camerton Court, under whose skilful management it grew to such perfection. The Cæsalpinia pulcherrima (Poinciana pulcherrima of Linneus) has been neglected hy some cultivators from its oftentimes failing to blossom in perfection. Some of our readers will be surprised when informed that the plant to which we have above alluded was upwards of eight feet high, with luxuriant racemes of flowers, and even then was but ten months old.

For the benefit of our friends Mr. Abbott has obligingly favoured us with the particulars of his management, and we may thank him in the name of the public, for liberally making known the results of his experience. He says "The plant which I sent you in November was raised from seed received from Jamaica, only in the month of January preceding. The seed was sown in a moderate hot-bed, and the plant flowered in nine months. I mention this fact from a conviction that this splendid plant has been discarded from several collections because it did not flower. The soil I used was sandy loam, peat, and about a sixth part of bone dust; taking care to re-pot the plant as often as it was required. I have every reason to believe that it was solely owing to the bone dust that it thrived as it did; a proof of which is, that two other plants, taken out of the same seed-pot, and treated in the common way, are not half so strong, and show no signs of flowering.

The Poinciana will strike freely enough from cuttings, put into a pot of sand, and covered with a propagating glass. It will accelerate their striking if the pot be plunged in a tan-pit. I have tried bone dust with most of my stove plants, and you would be surprised to see the difference it has made to them. I have plants of the Ixora coccinea growing most luxuriantly, with the foliage nearly twice its natural size, of a fine dark healthy green, while those from the same cutting pot, without bone dust, are looking as Ixora plants generally do, but neither so healthy, nor one half the size of the others.

From the experiments I have made, I am fully convinced of the utility of bone-dust as a manure for stove and other potted plants. It has long been in use among our best cultivators of Geraniums and Calceolarias, and with singular success."

There is, besides the variety which we now figure, a yellow, and also a striped one, seeds of which are not unfrequently received from the West Indies. These vegetate freely, but to grow the young plants successfully they should be placed in a strong humid stove heat, and allowed plenty of room for their roots, with the addition, as will be gathered from the preceding ob ervations, of bone dust or some equally stimulating manure.

### Derivation of the Names.

Cæsalpinia, named after Cæsalpinus, physician to Pope Clement the Eighth.
Pulcherrima very beautiful.

### Synonymes.

Cæsalpinia pulcherrima. Swartz: Observations, p. 160.
Poinciana pulcherrima. Linneus: Species Plantarum, p. 551. Botanical Magazine, t. 995.

Correa pulchella.

# CORRE'A PULCHEL'LA.

## NEAT CORREA.

EXOGENÆ. OR DICOTYLEDONEÆ

{ Natural division to which this Plant belongs. }

## NATURAL ORDER, RUTACEÆ.

THALAMIFLORÆ, OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }

OCTANDRIA, MONOGYNIA, OF LINNEUS.

No. 152.

GENUS. Correa. *Smith.* Calyx cupuliformis, subinteger aut quadrilobus. Petala quatuor, valvatim in tubum approximata partimve coalita. Stamina octo, petalis æqualia aut exserta, quatuor breviora iisdem opposita, filamentis glabris subulatis aut supra basim dilatatis, antheris oblongis. Ovaria quatuor, imposita gynophoro brevi in ambitu staminifero et quasi octolobo, dense stellatim pilosa. Styli quatuor in unum coaliti, stigmate æquali quadrilobo terminatum. Fructus quadri-capsularis. Frutices. Folia opposita, simplicia, integra. Flores in ramulis axillaribus pedunculiformibus terminales. Ramuli folia, flores, pube stellata dense congesta tomentosa. *Smith:* Exotic Botany.

SPECIES. Correa pulchella. (*R. Brown.*) Foliis ovatis obtusis undulatis utrinque pubescentibus, corollis cylindricis ventricosis, calycibus abbreviatis truncatis.

Character of the Genus, Correa. Calyx cup-shaped, nearly entire, or four-cleft. Petals four, arranged in the manner of valves, either close together or joined in part into an apparently monopetalous corolla. Stamens eight, equal to the petals or longer, four of them opposite to the petals being shorter than the others; the filaments smooth, and filiform, or dilated above the base; the anthers oblong. Ovaries four, placed on a short stalk which bears the stamens on its circumference, where it is as if eight lobed, and covered with thick stellate hairs, Styles four, joined into a single one, which terminates in a regular four-cleft stigma. Fruit consisting of four capsules.

Description of the Species, Correa pulchella. A shrub about six feet high, branched, branches round, of a rusty colour. Leaves opposite, coriaceous, persistent, shortly petiolate, ovate, cordate at the base, obtuse, undulatory at the margin, the upper ones slightly denticulate, when first unfolded clothed on both surfaces with a stellate pubescence, which is lost as they become older. Flowers solitary or twin, drooping, of a beautiful rose or salmon colour; peduncles longer than the petioles of the leaves. Calyx globose, truncate,

or obscurely four-lobed. COROLLA several times longer, cylindrical, or slightly ventricose, petals overlapping and cohering at the margins, so as to present the appearance of a monopetalous campanulate corolla, free at the upper part, and slightly reflexed; throat ciliated. STAMENS eight, alternately long and short, those opposite the petals being the shortest; filaments of the others as long as the tube, and anthers somewhat exserted. OVARY smooth; style one, longer than the corolla; stigma blunt.

POPULAR AND GEOGRAPHICAL NOTICE. This species of Correa is a native of Kangaroo Island, off the south coast of New Holland. The genus affords another proof of a peculiar type of organization being limited to a peculiar region of the globe, for though several species are found on the different coasts of Australia, and some of the adjacent islands, none have been discovered out of those latitudes. Growing as they do in the vicinity of the sea, their seeds must frequently fall into its dispersive waves, and be wafted to different shores, but their germinating property is either destroyed by the salt water, lost by time, or they are carried to regions unsuited to their constitution, so that every where except in the Australian territories, they "die and make no sign." The plant now figured presents some slight points of difference from those hitherto represented; it is more slender, the flowers more remote, and longer, as well as more elegant, and the colour not so deep. These may either be permanent distinctions or owing to the situation of the plant in the greenhouse, by which it has been drawn up and rendered more delicate in its habit. They are insufficient to justify making a new name for it, as the multiplication of these, without cause, is very objectionable.

INTRODUCTION; WHERE GROWN; CULTURE. It was brought to Britain in 1824. For an opportunity of drawing this handsome specimen, we are indebted to George Glenny, Esq. of Worton Lodge, Isleworth. An equal mixture of loam and peat is most suitable to it. Cuttings with well-ripened wood will readily root, if planted thinly in a pot of sand, under a hand glass, without heat.

### DERIVATION OF THE NAMES.

CORREA, after Joseph Correa de Serra, a Portugese botanist, many interesting letters from whom may be found in the Life and Corresponcence of Sir J. E. Smith. PULCHELLA, from pulcher, fair.

### SYNONYMES.

CORREA PULCHELLA. Sweet's Flora Australasica, t. 1.
——————— Lindley: Botanical Register, t. 1224.

*Grevillia ferruginea.*

# GREVIL'LEA FERRUGIN'EA.

## RUSTY GREVILLEA.

EXOGENÆ, OR DICOTYLEDONEÆ.

{ Natural division to which this Plant belongs. }

## NATURAL ORDER, PROTEACEÆ.

MONOCHLAMYDEÆ, OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }

TETRANDRIA, MONOGYNIA, OF LINNEUS.

No. 153.

GENUS. Grevillea. *Brown*. Perianthium irregulare, foliolis laciniisve secundis, apicibus cavis staminiferis. Antheræ immersæ. Glandula hypogyna unica, dimidiata. Ovarium dispermum. Stigma obliquum, depressum (raro subverticale conicum). Folliculus unilocularis, dispermus, loculo centrali. Semina marginata, vel apice brevissime alata. Frutices rarius arbores, pilis dum adsint medio affixis. Folia alterna, indivisa vel pinnatifida. Spicæ nunc elongatæ racemosæ, nunc abbreviatæ corymbosæ vel fasciculiformes, involucro nullo, pedicellis geminatis, raro pluribus, paribus fasciculisve unibracteatis. Perianthia sæpissime rubicunda nunc flava, in quibusdam oblique inserta. Folliculi vel coriacei ovati, stylo toto coronati, seminibus ovalibus, angustissime marginatis et apice brevissime alatis; vel lignei, suborbiculares, pseudo-bivalves, basi tantummodo styli mucronati, seminibus undique alatis. *Brown*.

SPECIES. Grevillea ferruginea (*Sieber*); foliis oblongis obtusis mucronatis, adultis super scabris subter cinereo-tomentosis; racemis paucifloris; perianthiis rostratis, rostro laminam superante.

Character of the Genus, Grevillea. Perianthium irregular, the leaflets or segments secund, the apices concave stameniferous. Anthers immersed in the hollow. Hypogynous gland single, dimidiate. Ovarium two-ovuled. Stigma oblique, depressed, (rarely subvertical and conical). Follicle unilocular, two-seeded, the loculament central. Seeds bordered, or very shortly winged at the apex.

Description of the Species, Grevillea ferruginea. Shrub erect; branches suberect, adpresso-pubescent. Leaves (1½-3½ inches long, 6-8 lines broad) scattered, linear-elliptical, mucronate, reflexed in the edges; above, dark green, minutely pubescent, veined, and slightly channelled in the middle; below, densely covered with silky adpressed hairs, becoming slightly rusty on the old leaves. Racemes terminal, cernuous. Flowers crowded, shortly pedicellate, the lowest first developed. Perianth strongly four-ribbed, the interstices being tumid; on its outside, as well as the pedicels and peduncle, covered with short, erect, ferruginous, glandular pubescence; on the inside, limb with white tomentum, the upper part of the tube with long silky white hairs, and toward the base nearly glabrous. Anthers yellow. Pistil projected beyond the tube about as far as the length of this; stigma very oblique, red, and glabrous; style red, and covered with

white suberect hairs; germen with long erect hairs. Disk pouting below, yellow, glabrous, nectariferous.

Popular and Geographical Notice. The species of Grevillea are generally low shrubs, but Grevillea robusta has, on the banks of the Brisbane River, a trunk nine feet in circumference, and from 80 to 100 feet in height. The following brief notices are from among the interesting observations made by Brown, on the geographical distribution of the Proteaceæ. The order is almost entirely confined to the southern hemisphere, yet is there much extended in latitude, longitude, and elevation. In South America the species are comparatively few, little varied in structure, and have a greater affinity with those of New Holland than with those of Africa. They are met with in every known part of the shores of New Holland, but both there and in Africa the great mass is in the latitude of the Cape of Good Hope. The species are comparatively few on the south coast, and much more numerous at the south-west extremity than at the eastern extremity of the principal parallel: yet the diminution towards the tropic is more rapid in passing from the south-western than from the eastern extremity, and within the tropic on the east coast no genus has been observed which does not occur beyond it, but several genera which do not exist in the principal parallel, are found at the southern boundary of the order. There is no species of the order common to the east and west coast of New Holland, the latter approaching somewhat more nearly to the Proteaceæ of Africa, the former to those of America. The genus Grevillea especially abounds on the east coast. In New Holland the range of species in the Order is very limited, with a very few exceptions, which are natives of the shores and members of large genera. Very few of the Proteaceæ are gregarious; almost all the species are scattered, growing for the most part in stony places, occasionally in loose sand; scarcely any require shelter, and none good soil; a few grow in bogs or shallow pools of water.

Introduction; Where grown; Culture. The seeds of this shrub were received at the Royal Botanic Garden, Edinburgh, from the late Mr. Richard Cunningham, under the name given, in 1835. He did not say from what part of New Holland they had been obtained, but we learn from Mr. Brown that it is a native of the neighbourhood of Port Jackson. It flowered very freely for the first time, with the usual treatment in the greenhouse, when under four feet high, in November, 1837, and continued to do so during the whole winter. It flowered at the same season last year, and again now, October, 1839.

### Derivation of the Names.

The genus was named by Mr. Brown in commemoration of the Right Hon. Charles Francis Greville, uncle to the present Earl of Warwick.

### Synonyme.

Grevillea ferruginea. Sieb. Herb. Nov. Holland, No. 27. Spreng. Syst. Veget, Cur. post. 46. Br. Prodr. Suppl. Primum, 19. Grah.

Mrs Wilkins del.

*Ceropegia stapeliaformis*

# CEROPE'GIA STAPELIIFOR'MIS.

## STAPELIA-LIKE CEROPEGIA.

EXOGENÆ, OR DICOTYLEDONEÆ.

{ Natural division to which this Plant belongs. }

## NATURAL ORDER, ASCLEPIADACEÆ.

COROLLIFLORÆ OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }

PENTANDRIA, DIGYNIA, OF LINNEUS.

No. 154.

GENUS. CEROPEGIA. *BROWN*, COROLLA tubulosa, basi ventricosa; limbi laciniis ligularibus, conniventibus (?) æstivatione valvata. COLUMNA fructificationis inclusa. CORONA staminea 10-fida; laciniæ 5 antheris distinctis oppositæ longiores cum 5 reliquis (indivisis bifidisve) alternantes. MASSÆ POLLINIS erectæ. HERBÆ glabræ, sæpius volubiles, radice tuberosa. UMBELLÆ interpetiolares nunc paucifloræ. *BROWN*, in Bot. Reg. fol. 626.

SPECIES. CEROPEGIA STAPELIIFORMIS; volubilis? aphylla, ramosa, ramis teretibus, dentibus mollibus spiniformibus subverticillatis; floribus 1-2 e ramis propriis brevibus; corollæ limbo intus hirsuto-tomentoso, laciniis liberis recurvis carinatis; lobis coronæ stamineæ exterioris brevibus emarginatis, interioris elongatis filiformibus. *HOOKER.*

CHARACTER OF THE GENUS, CEROPEGIA. COROLLA tubular, inflated at the base, segments of the limb strap-shaped, connivent (?) with valvate æstivation. COLUMN of fructification included. STAMINAL CORONA 10-cleft; five of the segments longer than the others, opposite to the stamens, and alternating with the other five which are entire or bifid. POLLEN MASSES erect.

DESCRIPTION OF THE SPECIES, CEROPEGIA STAPELIIFORMIS. STEM fleshy, branched, round, curved, with long joints, tubercled, and having below the joints minute, subulate, reflected leaves. UMBELS few-flowered, or flowers often solitary, arising at the tubercles. FLOWERS ($2\frac{1}{2}$ inches long, $1\frac{1}{2}$ inch across from tip to tip, when fully expanded) erect, shortly pedicellate. CALYX green, five-partite; segments transversely wrinkled at the base, subulate. COROLLA yellowish green, spotted with red, especially on its base and at its limb; every where glabrous on the outside, on the inside very hairy at the limb and throat, and in a smaller degree below the middle and at the base of the tube; limb five-lobed, segments closely reflected at their sides, and sharply keeled along their centre internally, curved outwards, pointed at the tips; tube funnel-shaped, tumid below. STAMINAL CROWN with

the five longer segments erect, attenuated, approximated in the centre, and slightly incurved at the points; the other segments alternating with the base of these, are short and blunt. POLLEN MASSES small, yellow, kidney-shaped, opposite to the longer segments of the corona. STIGMA nearly flat with five angles, surmounting the two-lobed, erect, glabrous, nearly white GERMEN, which is shorter than the calyx.

POPULAR AND GEOGRAPHICAL NOTICE. The genus Ceropegia is almost entirely East Indian, one species only having been obtained from the Cape of Good Hope, They are very singular looking plants, with abundance of milky juice. The species, as Dr. Wight remarks, may be most easily distinguished by the modifications of the corona, but unfortunately while this affords the means of easy diagnoss, it combines the species, as he also remarked, into very unnatural groups. The flowers of several, though always very peculiar, are handsome—those of others are attractive only from their peculiarity. The diverging form of the limb of the corolla in the present species, is, as far as I know, the only exception to the connivent segments considered by Brown part of the generic character. The species are eaten by the natives of India, either in curries or raw; and according to Dr. Roxburgh the tuber of Ceropegia bulbosa much resembles a turnip to the taste.

INTRODUCTION; WHERE GROWN; CULTURE. All the species which have been introduced to our gardens are habitually cultivated in stove heat, though from the elevation at which some of them naturally grow, they might have been expected to thrive in a cooler temperature. They are readily propagated by cuttings at almost any season; and require a light sandy soil, with a limited supply of water. The present species was received at the Botanic Garden, Edinburgh, from Kew, in 1833.

### DERIVATION OF THE NAME.

CEROPEGIA, from *κηροπηγιον*, the form of the umbel in some degree resembling a Candelabra.

### SYNONYME.

CEROPEGIA STAPELIIFORMIS. Hooker: in Bot. Mag. 3567, GRAH.

*Stanhopea speciosa-ovulascens*

# GLOXIN'IA SPECIO'SA-CAULES'CENS.

## SHEWY-CAULESCENT GLOXINIA.

EXOGENÆ. OR DICOTYLEDONEÆ

{ Natural division to which this Plant belongs. }

## NATURAL ORDER, GESNERIACEÆ.

CALYCIFLORÆ, OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }

DIDYNAMIA, ANGIOSPERMIA, OF LINNEUS.

## No. 149.

GENUS. Gloxinia. *L'Heritier.* Calyx tubo teretivel pentaptero, cum ovarii basi connato, limbo quinquepartito, æquali. Corolla perigyna, infundibuliformi-vel-campanulato-ringens, tubo basi postice gibbo, fauce ampliata, antice ventricosa, limbi bilabiati labio superiore breviore bilobo, inferioris trilobi lobo medio majore. Stamina corollæ tubo inserta, quatuor, didynama, inclusa vel subexserta, cum rudimento quinti; antheræ biloculares, in discum cohærentes. Ovarium basi calyci cohærens, glandulis quinque stipatum, uniloculare, placentis duabus parietalibus carnosis, bilobis. Ovula plurima, in funiculis brevibus, anatropa. Stylus simplex; stigma capitatum, subinfundibuliforme. Capsula calyce carnoso tecta, apice bivalvis, valvis medio placentiferis. Semina plurima, oblongo-fusiformia. Embryo in axi albuminis carnosi orthotropus; cotyledonibus obtusis, radicula umbilicum spectante, centrifuga. Herbæ Americæ tropicæ, tubere hypogæo perennantes, acaules vel caulescentes; foliis oppositis, petiolatis, crassis, crenatis vel serratis; floribus axillaribus, solitariis vel paucis aggregatis, amplis, nutantibus, corollis violaceis, albis vel viridi-lutescentibus, interdum punctis vel maculis obscurioribus variegatis. *Endlicher*: Genera Plantarum, p. 722.

HYBRID. Gloxinia speciosa-caulescens. *Foliis cano-hirsutis ovali-ellipticis oblongisve obscure crenatis, pedunculis erectis flore duplo longioribus, segmentis calycis angulatis acuminatis pubescentibus.*

Character of the Genus, Gloxinia. Tube of the Calyx round or five-winged, adhering to the base of the ovary; limb five-parted, equal. Corolla perigynous, funnel-shaped or campanulate and ringent; tube gibbous at the base, throat dilated, ventricose anteriorly; limb two-lipped, the upper lip shorter, two-lobed, lower lip three-lobed, the central lobe largest. Stamens inserted into the tube of the corolla, four in number, and didynamous, included in the tube of the corolla or only slightly protruding, a fifth in a rudimentary state. Anthers two-celled, cohering in the form of a disc. Ovary cohering to the base of the calyx, and supported by five glands, one-celled, with two fleshy parietal placentæ, which are two-lobed. Ovules numerous, with short stalks, and anatropous. Style simple; stigma capitate, somewhat funnel-shaped. Capsule covered by the fleshy calyx, splitting at the top into two valves; valves placentiferous in the

middle. SEEDS numerous, oblong or spindle-shaped. EMBRYO orthotropous in the axis of a fleshy albumen; cotyledons obtuse, radicle pointing towards the umbilicus, centrifugal.

DESCRIPTION OF THE HYBRID, GLOXINIA SPECIOSA-CAULESCENS. TUBER thick. STEM thick, simple, about six inches or more in length, hairy. LEAVES petiolate, elliptical or oblong, hairy or villose on both surfaces, lower one large and distinctly crenate, upper one contracted at the base, and obscurely crenate. FLOWERS large, numerous, supported on long peduncles, which are hairy and reddish. CALYX somewhat angular, tube fleshy, limb five-parted, segments acute, spreading. COROLLA large, shewy, nodding or pendent, of a purplish white colour externally, deeper purple internally, contracted at the base, enlarging and becoming ventricose upwards; limb two-lipped; lobes unequal, reflexed. STAMENS five, cohering to the tube of the corolla, didynamous, with the rudiment of a fifth. OVARY one-celled. STYLE one, stigma capitate.

POPULAR AND GEOGRAPHICAL NOTICE. Under the head of Gloxinia speciosa (Plate 105) it is stated that though cultivators generally admit two species, designated respectively Gloxinia speciosa and Gloxinia caulescens, these pass into each other by many connecting links in the various specimens, and must therefore be regarded as mere varieties of one species. The length of the stem is the only prominent character, and so many circumstances influence this, that for a specific difference it is quite insufficient. Hybrids are readily produced among the different varieties, and that now figured originated by fertilizing the seeds of the variety Caulescens with the pollen from Gloxinia speciosa, variety alba. The flowers of this present an approximation in colour to the white parent, as it is almost invariably observed that the colour of the flowers is mostly determined by that of the parent which supplies the pollen, while the foliage and organs of vegetation generally resemble that of the parent which furnished the ovules. The more the hybrid resembles the latter the more likely will its seeds be fertile.

### DERIVATION OF THE NAMES.

GLOXINIA, in compliment to B. P. Gloxin, who described Martynia diandra, and Martynia proboscidea, nearly allied plants. SPECIOSA-CAULESCENS, compounded of the names of the parents.

Mrs Maund. del

*Staphanthus dichotomus.*

Maund. sculp

# STROPHAN'THUS DIVER'GENS.

## CHINESE STROPHANTHUS.

EXOGENÆ, OR DICOTYLEDONEÆ.

{ Natural division to which this Plant belongs. }

### NATURAL ORDER, APOCINACEÆ.

COROLLIFLORÆ OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }

PENTANDRIA, MONOGYNIA, OF LINNEUS.

### No. 150.

GENUS. STROPHANTHUS. *DECANDOLLE.* COROLLA infundibuliformis. FAUX coronata squamulis 10 indivisis. LIMBI laciniæ caudatæ. STAMINA medio tubo inserta. ANTHERÆ sagittatæ, aristatæ vel mucronatæ. GERMINA 2. STYLUS 1, filiformis, apice dilatato. STIGMA subcylindraceum. SQUAMÆ 5, hypogynæ. FOLLICULI **** FRUTICES sarmentosi (semper?) FOLIA opposita. *BROWN:* Trans. Wern. Soc. 1, 72.

SPECIES. STROPHANTHUS DIVERGENS. (*GRAH.*) Frutex erectus; ramis oppositis, patentissimis, verrucosis; foliis lanceolato-oblongis, nitidis, undulatis; stipulis parvulis, acuminatis; pedunculis terminalibus, dichotomis; segmentis calycinis bracteisque erectis, subulatis.

CHARACTER OF THE GENUS, STROPHANTHUS. COROLLA funnel-shaped; throat crowned with ten undivided scales; segments of the limb long and slender. STAMENS inserted into the middle of the tube. ANTHERS sagitate, awned or mucronate. GERMENS two. STYLE one, filiform, dilated at the apex. STIGMA subcylindrical. SCALES five, hypogynous. FOLLICLES unknown.

DESCRIPTION OF THE SPECIES, STROPHANTHUS DIVERGENS. SHRUB little more than two feet high, erect, and in no degree sarmentose or climbing. BRANCHES numerous, as well as all the subdivisions, spreading at right angles. BARK brown, and thickly sprinkled with light coloured warts. LEAVES crowded on the extremities of the branches, suberect on short petioles, opposite, lanceolate-oblong, or sometimes inclining to ovate, dark green, shining, undulate, midrib prominent, veins strong, nearly transverse, united in arches near the edges of the leaf, mucronulate. STIPULES very small, pointed, rigid, connivent, one at each side of the axils of the leaves, and several on the outside of the bud within the axil. PEDUNCLES terminal, once, twice, or rarely oftener dichotomous, often three buds form at the end of the peduncle, the central one first expands, and afterwards the others, but not very frequently two at a time unless the peduncle is frequently

divided. Bracts subulate, one on the outside of each pedicel, and about half its length, deciduous, two similar but smaller bracts are placed opposite to each other about the middle of the pedicels, and from the axils of these other flowers push or prove abortive. Calyx five-parted, segments green, subulate, erect, and very similar to the bracts. Corolla funnel-shaped, yellow, streaked and sprinkled with red on the inside of the throat and base of the laciniæ; tube cylindrical, and nearly twice as long as the calyx; faux campanulate, crowned with five bipartite blunt white teeth; limb cut into five linear segments (about two inches long) which in the bud form a long twisted beak, but afterwards spread wide. Filaments swollen below, adhering by their backs to the tube of the corolla, and, as well as the inside of the campanulate portion of this, hairy; anthers sagitate, adhering to each other and to the stigma, each terminated by a long awn. Germen round, lobular, green. Style stout, cylindrical, white; stigma angular.

Popular and Geographical Notice. There are only a few species of this remarkable genus known, but these are scattered through China, Cochin-china, the coast of Coromandel, and the western part of Africa. We have had the present species in cultivation for many years, and it has never shown the smallest tendency to acquire a climbing stem, but as its roots have been confined it is not impossible that its habit, as occasionally happens to other plants in similar circumstances, may be altered in this respect.

Introduction; Where grown; Culture. Seedling plants were sent to the Botanic Garden, Edinburgh, many years ago from Valley-field, the seat of the late Sir Robert Preston, but I never could learn their history. Specimens collected by Messrs. Bladh and Staunton, in the neighbourhood of Macao, and preserved in the Banksian Herbarium, seem to be identical. It is cultivated in common mould, kept in moderate stove heat, and flowers very freely every year in June.

### Derivation of the Names.

Strophanthus, from *στροφος* and *ανθος*, in allusion to the strap-shaped segments of the corolla.

### Synonymes.

Strophanthus divergens. Graham: in Edinburgh New Philosophical Journal, June, 1837,

Strophanthus dichotomus; β. chinensis. Bot. Reg. 469.

Grah.

W^m Withers del

*Ipomœa Batatas.*

Nevitt sc

# BOTANIST;

CONSISTING OF

*Highly finished Representations*

OF TENDER AND HARDY

## Ornamental Plants:

WITH

*Descriptions, Scientific and Popular;*
*intended to convey both Moral and*
*Intellectual Gratification.*


CONDUCTED BY B. MAUND, F.L.S.

ASSISTED BY

THE REVD J. S. HENSLOW, M.A.F.L.S.

REGIUS PROFESSOR OF BOTANY
IN THE UNIVERSITY OF CAMBRIDGE



LONDON.

PUBLISHED BY R. GROOMBRIDGE, PATERNOSTER ROW

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THE

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"The World seems to have discovered that nothing about which Infinite Wisdom has deigned to employ itself can, properly speaking, be unworthy of any of its creatures, how lofty soever their pursuits and pretensions, may be."

SIR J. E. SMITH.

VOL. IV.

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OF

# THE BOTANIST.

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## THE GUIDE.

A part of which is likewise annexed to each Number, also forms a separate Volume.

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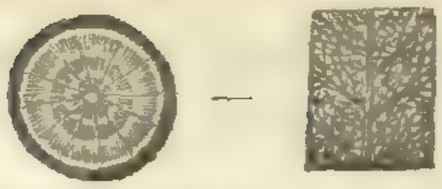
**Those portions of the above works originally annexed to the Numbers comprised in this Volume of the BOTANIST will be delivered with it to the purchaser.**

*Goldfussia glomerata.*

# GOLDFUS'SIA GLOMERA'TA.

## CLUSTERED GOLDFUSSIA.

EXOGENÆ, OR DICOTYLEDONEÆ.



{ Natural division to which this Plant belongs. }

NATURAL ORDER, ACANTHACEÆ.

COROLLIFLORÆ, OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }

DIDYNAMIA, ANGIOSPERMIA, OF LINNEUS.

No. 155.

GENUS. Goldfussia. *Nees.* Calyx quinquepartitus, subæqualis. Corolla infundibuliformis, limbo quinquefido obtuso æquali. Stamina quatuor inclusa didynama, humiliora sæpe brevissima reflexa. Antheræ nutantis locelli in connectivo uncinato glanduloso oblique ovati, membranacei. Ovarii loculi biovulati. Stylus simplex; stigma subulatum altero latere crenatum. Capsula sexangularis bivalvis a dissepimento solubilis, loculis inferius dispermis. Semina discoidea, retinaculis subtensa. Frutices foliis penninerviis. Flores pauci in capitulo bibracteolati bracteis deciduis, rarius spicati spica post delapsas bracteas magis elongata. *Nees von Esenbeck:* in Wallich's Plantæ Asiaticæ Rariores, v. 3, p. 87.

SPECIES. Goldfussia glomerata. (*Nees.*) Foliis ovato-subrotundis cuspidatis basi obtusis inæqualibus inæqualiter grosse dentato-crenatis multiplinerviis spicisque axillaribus oppositis solitariis globosis brevissime pedunculatis hirsutis, bracteis lanceolatis integerrimis interioribus capitulum superantibus, caule fruticuloso hirsuto. *Nees:* Ibid. p. 88.

Character of the Genus, Goldfussia. Calyx five-cleft, nearly equal. Corolla funnel-shaped, the limb cut into five nearly equal blunt divisions. Stamens four, didynamous, included in the corolla, the smaller ones often very short, and bent downwards. Anthers nodding, the cells oval, membranous, obliquely inserted on a hooked connectivum. Cells of the ovary containing two ovules each. Style simple by the abortion of one branch, the remaining branch linear, somewhat flattened, with a lateral stigma. Capsule six-angled, two-valved, the valves separable from the dissepiment, each cell having near the base two disk-shaped seeds attached under the retinacula.

Description of the Species, Goldfussia glomerata. Stem shrubby at the base, much branched. Branches herbaceous, irregularly divaricate, knotty, bearing, especially in the upper part, many stiff spreading hairs. Leaves opposite, stalked, those of each pair very unequal in size, the larger ones three to six inches long, ovate, ending in a long point, irregularly toothed on the margin, more or less contracted at the base, rough with long stiff hairs on the upper side, pale and nearly smooth underneath, the opposite one of each pair usually less than half the size, and broader in proportion. Heads

OF FLOWERS nearly sessile in the axils of the upper leaves, solitary, ovate or globose, few flowered, hairy, the upper heads forming a sort of glomerate broken spike at the extremity of the branches. Each head consists of a series of opposite bracts, of which the outer ones are short, ovate or lanceolate, and sterile, the inner ones from half an inch to an inch long, lanceolate, blunt, entire or toothed, each having a sessile flower in its axil. CALYX consisting of five linear lanceolate unequal sepals, similar to the inner bract but smaller. COROLLA nearly two inches long, of a rich blue, the tube narrow where included in the calyx, then spreading into a long and ample throat, the divisions of the limb short and broad, the whole corolla perfectly smooth inside and out, with the exception of a very few collecting hairs in the throat. FILAMENTS adhering to the corolla and to each other half way up the throat, then free and flattened, the shorter ones scarcely turned down. ANTHERS oblong, the cells parallel, opening nearly the whole length, with a much smaller connectivum than in Goldfussia anisophylla, from whence it appears the generic character is chiefly taken.

POPULAR AND GEOGRAPHICAL NOTICE. The genus Goldfussia is one of those separated by Nees von Esenbeck from the old heteromorphous assemblage collected under the name of Ruellia. The species are all Indian, and appear to be chiefly, if not entirely, mountain plants. The present species from the mountains of Sylhet, may, perhaps, be a mere variety of the Goldfussia capitata of Nepal, and of the biceps of the Burmah country; if so, its range is extensive, but the solitary heads of flowers and the hairiness are the same in the cultivated plant as in the wild specimens described by Nees. Another plant of the same genus, the Goldfussia anisophylla (which is the old Ruellia anisophylla of our gardens) has lately been the subject of some very interesting observations of Professor Morren, of Liege, who has detected a remarkable irritability in the upper part of the style, by which alone, when acted upon by insects or other external agents, the stigma is enabled, according to him, to come in contact with the pollen. G. B.

INTRODUCTION; WHERE GROWN; CULTURE. This species was first discovered in the mountains of Sylhet, by F. da Silva, one of the collectors employed by Dr. Wallich, and transmitted from Calcutta to his Grace the Duke of Northumberland, in whose stoves at Sion House, it first flowered in November, 1839. To his Grace's condescension we are much indebted for the opportunity of figuring it. It should be planted in a mixture of peat and loam.

### DERIVATION OF THE NAMES.

GOLDFUSSIA, in honour of Professor Goldfuss of Bonn, Secretary and Librarian to the Academy Naturæ Curiosorum. GLOMERATA, heaped, or in heads.

### SYNONYME.

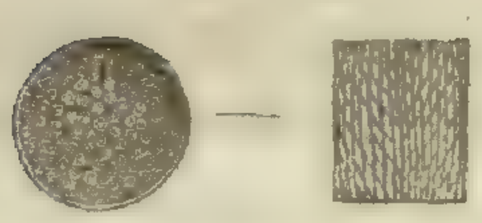
GOLDFUSSIA GLOMERATA. Nees von Esenbeck: in Wallich's Plantæ Asiaticæ Rariores, v. 3, p. 88.

*Cyperus maculata*

# CYCNO'CHES MACULA'TA.

## SPOTTED CYCNOCHES.

ENDOGENÆ. OR MONOCOTYLEDONEÆ



{ Natural division to which this Plant belongs. }

NATURAL ORDER, ORCHIDACEÆ.

GYNANDROSÆ, OF LINDLEY.

{ Artificial divisions to which this Plant belongs. }

GYNANDRIA, MONANDRIA, OF LINNEUS.

No. 156.

GENUS. Cycnoches. *Lindley.* Perigonii explanati foliola exteriora lanceolata, lateralia infra labellum subconnata, supremum angustius, interiora latiora, falcata, decurva. Labellum columnæ continuum, liberum, lanceolatum, ecalcaratum, integerrimum, ungue supra callosum vel appendiculatum. Columna elongata, arcuata, teres, apice clavata, clinandrio utrinque falcato-auriculato. Anthera bilocularis. Pollinia duo, postice sulcata, subpedicellata, caudicula lineari glandulæ grossæ affixa. Herbæ epiphytæ pseudobulbosæ, scapis radicalibus vel axillaribus, floribus racemosis. *Endlicher.* Genera Plantarum, p. 198.

SPECIES. Cycnoches maculata. (*Lindley.*) Racemo longissimo multifloro, labello lineari lanceolato, hypochilio lineari, metachilio basi cornuto glandulis utrinque quinque vel sex teretibus elongatis genuflexis pinnatifide marginato, epichilio lanceolato membranaceo acuto margine incurvo. *Lindley:* Bot. Reg. 1840, Miscellanies, n. 8.

Character of the Genus, Cycnoches. Perigon spreading, the outer leaflets or sepals lanceolate, the lateral ones slightly connected below the labellum, the upper one narrower; inner leaflets or petals broader, falcate, and curved downwards. Labellum continuous with the column, free, lanceolate, without a spur, entire, with a callosity on the claw, and occasionally with processes on the surface towards the middle. Column elongated, curved, cylindrical, thickened towards the top, with an auricular appendage on each side of the receptacle of the anther. Anther two-celled. Pollen masses two, furrowed on the back, almost clawed, with a linear caudicle attached to a large gland.

Description of the Species Cycnoches maculata. Pseudobulbs elongated, compressed. Flowering stems terminated in a tuft of long linear lanceolate leaves, somewhat wavy on the margin, contracted towards the base above the sheaths by which they clasp the stem, strongly marked with three or five longitudinal nerves. Raceme axillary, hanging downwards, nine to eighteen inches long, with a few squamæ at the base, bearing flowers nearly from the bottom. Bracts membranous, lanceolate, pointed, about the length of the

foot-stalks. Ovary bent down at right angles to the foot-stalk. Flowers three inches in diameter, the five spreading divisions nearly alike in form and colour, being lanceolate, pointed, narrowed at the base, of a pale colour but marked with claret spots, the lateral outer ones more attenuated, and joined together at the base, the upper outer one longer and narrower, the inner ones somewhat twisted at their extremity. Labellum narrow, shorter than the other divisions, the lower part or hypochilium linear with an oblong swelling at the base, the central portion or metachilium rather broader, and bearing on the upper surface a dozen protuberances pinnately arranged, blunt and hooked at the end; the labellum terminates in a narrow lanceolate epichilium, the borders turned upwards, the whole more or less marked with claret spots. Column nearly the length of the divisions of the perigon, very much curved inwards and thickened at the extremity, almost entirely of a vinous colour, the clinandrium having on each side an ovate auricle. G. B.

Popular and Geographical Notice. The little genus Cycnoches, remarkable for the graceful swan-like inflection of the column, now consists of four species, natives of that hotbed of Orchidaceæ, the damp tropical regions in the north-east of the South American continent. The new species now figured is chiefly remarkable for the appendages of the labellum, called by some, glands, but the nature and use of which are as puzzling as that of many other of the singularities in the flowers of this extraordinary tribe. It appears also to be one of the finest of the genus, from the great length and number of flowers of the raceme.

Introduction; Where grown; Culture. We are indebted to John Willmore, Esq, of Oldford, Staffordshire, for the specimen of this splendid new Cycnoches, from which our drawing was made. Our readers will appreciate the progress of floriculture when they are told that the very plant now figured, which flowered in the above gentleman's Orchidaceous house, under the assiduous management of Mr. Williams, in December, 1839, was found luxuriating on its native hills of La Guyra, with Cattleya Mossei and numerous other species, in the April preceding, by Mr. Charles M^c^ Kenzie, and sent home to his spirited employers, the Messrs. Low, of Clapton Nursery, from whom it was obtained by Mr. Willmore. It requires but the usual treatment of its genus—*rough* peat and potsherds, and moist heat when growing.

### Derivation of the Names.

Cycnoches, from κυκνος a swan, the column being compared to a swan's neck.

Maculata spotted.

*Rhododendron Caucasico-arboreum*

# RHODODEN'DRON CAUCA'SICO-ARBO'REUM.

## SHEWY HYBRID RHODODENDRON.

EXOGENÆ, OR DICOTYLEDONEÆ.

Natural division to which this plant belongs.

## NATURAL ORDER, ERICACEÆ.

CALYCIFLORÆ, OF DECANDOLLE.

Artificial divisions to which this Plant belongs.

DECANDRIA, MONOGYNIA, OF LINNEUS.

**No. 157.**

GENUS. Rhododendron. *Linnæus.* Calyx quinque-partitus. Corolla hypogyna, infundibuliformis vel subcampanulata, limbo quinquefido vel rarius septemfido, æquali vel subbilabiato. Stamina hypogyna vel imæ corollæ inserta, ejusdem laciniis numero æqualia (5), vel sæpius dupla (10 vel 14); filamenta filiformia, adscendentia. antheræ muticæ, loculis apice poro obliquo dehiscentibus. Ovarium quinque-decem-loculare, loculis multiovulatis. Stylus filiformis; stigma capitatum. Capsula globosa vel oblonga, quinque-decem-locularis, septicide quinque-decemvalvis, columna centrali placentifera libera. Semina plurima, testa laxa, reticulata, scobiformia. Frutices vel arbores, in Europæ et Asiæ mediæ alpibus, in America boreali, in Indiæ terra continenti et insulis spontanei; foliis alternis, integerrimis, semper virentibus vel deciduis, floribus corymbosis, speciosis, luteis, roseis purpureis vel albis. *Endlicher:* Genera Plantarum, p. 759.

HYBRID. Rhododendron Caucasico-arboreum hybridum pulcherrimum. Foliis ovatis obtusis vel oblongis supra nitidis, umbellis terminalibus, corollis rotatis.

Character of the Genus, Rhododendron. Calyx 5-parted. Corolla hypogynous or subcampanulate, limb 5- rarely 7-cleft, equal or slightly two-lipped. Stamens hypogynous or inserted into the bases of the corolla, equal in number with the segments of the corolla, and in that case 5, or more frequently double (and then 10 or 14); filaments filiform, ascending, anthers not pointed, the cells opening by an oblique pore at the summit. Ovary 5- or 10-celled, cells containing many ovules. Style filiform; stigma capitate. Capsule globose or oblong, 5-10-celled, becoming either 5 or 10-valved by septicidal dehiscence, the column central, free, and placentiferous. Seeds numerous, testa loose, reticulated, appearing as if sprinkled with particles of dust.

Description of the Hybrid, called Shewy or Handsome Rhododendron. Shrub a foot or two high, stem branched, branches spreading. Leaves alternate, shortly petiolate, coriaceous, persistent, ovate or oblong, neither woolly nor rusty on the under surface, dark green and shining on the upper. Groups of flowers terminal;

pedicels short; calyx small, five-parted. COROLLA oblique at the base; tube short; limb spreading, five-lobed, lobes obtuse or slightly emarginate, the inner side a most delicate pink, except where it is marked with deep red spots at the base, and reddish spots on the upper lobes. STAMENS ten, unequal in length. ANTHERS two-celled. OVARY five-celled. STYLE one. STIGMA capitate.

POPULAR AND GEOGRAPHICAL NOTICE. The parents of this hybrid were the Rhododendron arboreum, a native of Nepal, on the mountains of Narainhetty; (the varieties Rhododendron arboreum roseum, and Rhododendron arboreum niveum, are found only on Sheopore, at the head of the valley of Nepal, occupying a station on that mountain 10,000 feet above the level of the sea); and the Rhododendron Caucasicum, which grows on the highest of the Caucasian range of mountains, bordering on the regions of perpetual snow. The production of hybrids has been objected to on the ground that they lead to confusion among species. They are, however, far from being useless, as they illustrate many points in physiology, particularly with regard to the origin and permanency of certain varieties or races—both human, and in the domestic animals; and also modify the constitution of plants in a very remarkable degree. The magnificent Rhododendron arboreum, though growing at such an elevation in its native land, has been found too delicate to endure our climate in the open air. Various hybrids, produced by applying the pollen of it to some other species, have been found hardy enough, and as the flowers are little less splendid than those of the Tree Rhododendron itself, our woodlands and heaths are now adorned with most magnificent tufts of flowers in the early part of spring. Of this, Lord Carnarvon's seat, at High-Clerc, in Hampshire, is a striking instance—the hybrids which flourish there, however, are produced by fertilizing Rhododendron Catawbiense with Rhododendron arboreum.

ORIGIN; WHERE GROWN; CULTURE. This mule originated with Mr. William Smith, of Norbiton Common Nursery, near Kingston, Surrey. The specimen from which our drawing was made, flowered with Messrs. Rollisson, Tooting. It requires the usual bog-earth soil.

DERIVATION OF THE NAMES.

RHODODENDRON, from *ῥοδον* a rose, and *δενδρον*, a tree. CAUCASICO-ARBOREUM, compounded of the names of the parents.

SYNONYME.

RHODODENDRON VENUSTUM. Don: in Sweet's Flower Garden, 2nd Series, t. 285.

M^rs Withers del

*Lilium Thunbergianum*

Vendtes sculp

# LIL'IUM THUNBERGIA'NUM.

## THUNBERG'S LILY.

ENDOGENÆ, OR MONOCOTYLEDONEÆ.

{ Natural division to which this Plant belongs. }

## NATURAL ORDER, LILIACEÆ.

HYPOGYNOSÆ, OF LINDLEY.

{ Artificial divisions to which this Plant belongs. }

HEXANDRIA, MONOGYNIA, OF LINNEUS.

## No. 158.

GENUS. LILIUM. *LINNÆUS.* PERIGONIUM corollinum, deciduum, hexaphyllum; foliola basi subcohærentia, infundibuliformi-campanulata, apice patentia vel revoluta, intus sulco nectarifero adhærentia. OVARIUM triloculare. OVULA plurima, biseriata, horizontalia, anatropa. STYLUS terminalis, subclavatus, rectus vel subcurvatus; stigma subtrilobum. CAPSULA trigona, sexsulca, trilocularis, loculicido-trivalvis. SEMINA plurima, biseriata, horizontalia, plano-compressa, testa lutescente, subspongiosa, membranaceo-marginata, rhaphe hinc per marginem decurrente. EMBRYO in axi albuminis carnosi rectus vel segmoideus, extremitate radiculari umbilico proxima. HERBÆ in Europa et Asia media et septentrionali, in Japonia et in Indiæ montibus, nec non in America boreali indigenæ, bulbosæ; foliis alternis vel subverticillatis, floribus magnis, speciosis, erectis vel nutantibus. *ENDLICHER.* Genera Plantarum, p. 141.

SPECIES. LILIUM THUNBERGIANUM. (*ROMER* et *SCHULTES.*) Caule superne villoso, foliis ovato-lanceolatis inferioribus alternis superioribus verticillatis, floribus terminalibus erectis, perianthii laciniis sessilibus patentibus apice revolutis intus glabris staminibus multo longioribus. *LINDLEY.*

CHARACTER OF THE GENUS, LILIUM. PERIGON resembling a corolla, deciduous, of six pieces or folioles, folioles slightly cohering at the base, funnel-shaped or campanulate, spreading at the apex, or curved back, having on the inner surface a nectariferous groove. STAMENS six, slightly adhering to the base of the folioles of the perigon. OVARY three-celled. OVULES numerous, in two rows, horizontal, anatropous. STYLE terminal, somewhat club-shaped, straight or only slightly curved; stigma somewhat three-lobed. CAPSULE three-cornered, six-furrowed, three-celled, becoming three-valved by a loculicidal dehiscence. SEEDS numerous, in two rows, horizontal, compressed into a flat form, testa yellowish, somewhat spongy, furnished with a membranaceous margin, along which the raphe runs. EMBRYO either straight or segmoid in the axis of a fleshy albumen, the radical extremity next the hilum.

DESCRIPTION OF THE SPECIES, LILIUM THUNBERGIANUM. PERMANENT STEM, consisting of a scaly bulb, which emits a shoot about three feet high, bearing the leaves and flowers, smooth below, clothed

with soft hairs towards the upper part. LEAVES alternate and sparse at the lower part, verticillate in whorls of three or four near the top, sessile, broad at the base, ovate lanceolate, smooth, strong nerved, about an inch and half broad. FLOWERS terminal, erect, of a rich fawn or brick colour. PERIGON of six spreading lanceolate segments, smooth, limb spotted towards the base, and nearly tubular, having a double nerve running to the tip. STAMENS six, shorter than the segments of the perigon; filaments of unequal length. ANTHERS two-celled, versatile; pollen dark brown. OVARY remarkably club-shaped, green; style one, springing from the centre of the ovary, brick-coloured, thickened towards the summit; stigma three-lobed.

POPULAR AND GEOGRAPHICAL NOTICE. One of the many magnificent Lilies which Kæmpfer stated as ornamenting Japan, whence Dr. Siebold contrived to bring it in a living state. Thunberg was the first to describe it, and he bestowed several names upon it, referring it to Lilium bulbiferum, to which it could not belong, having no bulbs in the axils of the leaves; then to Lilium Philadelphicum.

It does not possess the agreeable odour of the white lilies, indeed it is a circumstance worthy of notice, that orange or brown flowers rarely have a pleasant aroma, as may be remarked in the common orange lily, and yet more in the stapelias.

INTRODUCTION; WHERE GROWN; CULTURE. Introduced from Belgium to England. Our drawing was made from a plant at the Messrs. Rollisson's, at Tooting. It is kept in a frame, but may possibly prove hardy, flowering from July to September. "After flowering, the bulbs should be fresh potted or planted in a pit, well protected from wet, late in autumn or very early in the spring, in a mixture of sandy peat, loam, and a small portion of rotted manure or leaf mould. The soil in the pots or pit in which the fresh bulbs are planted should be kept dry until they begin to grow, when water should be given, but rather sparingly at first. The plant may be increased freely from every scale of which the old bulb is composed. These, if separated, potted in sand, and placed in a gentle heat, will soon make plants, but they will not flower for two or three years." (LINDLEY.)

### DERIVATION OF THE NAMES.

LILIUM, from the Celtic LI, white. THUNBERGIANUM, to signify that this was the plant of Thunberg.

### SYNONYMES.

LILIUM THUNBERGIANUM. Romer et Schultes, Systema Vegetabilium, VI. 415.
——————————Lindley: Botanical Register, 1839, t. 38.

Nº Wilhem del.

Solanum barbatum.

# COLE'US BARBA'TUS.

## BEARDED COLEUS.

EXOGENÆ OR DICOTYLEDONEÆ.

{ Natural division to which this Plant belongs. }

NATURAL ORDER, LABIATÆ.

COROLLIFLORÆ, OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }

DIDYNAMIA, GYMNOSPERMIA, OF LINNEUS.

No. 159,

GENUS. Coleus. *Lourreiro*, Calyx ovato-campanulatus, quinquedentatus, dente supremo ovato-membranaceo, inferioribus angustioribus, omnibus vel infimis acutis. Corolla tubo exserto defracto, limbi labio superiore brevi trivel quadri-fido, inferiore integro elongato concavo sæpius cymbiformi, genitalia includente. Stamina qnatuor, declinata. Filamenta edentula, basi in tubum stylum vaginantem connata. Antheræ ovato reniformes, loculis confluentibus. Stylus apice subulatus, bifidus, stigmatibus subterminalibus. Carpella subrotundo-compressa, lævia. Herbæ rarius suffrutices. Verticillastri sexflori vel multiflori, nunc densissimi, nunc cymæformes laxi. Folia floralia bracteæformia, per anthesin sæpius decidua.

SPECIES. Coleus barbatus (*Bentham*) caule basi fruticoso adscendente tomentoso-hispido, foliis petiolatis ovatis crenatis basi angustatis molliter tomentosis, junioribus hispidis, floralibus membranaceis lato-ovatis acuminatis in apice racemorum comosis per anthesin deciduis, racemis simplicibus, verticillastris sex ad decem distantibus calycibus fructiferis deflexis hispidis, fauce intus villosa, dente supremo ovato subdecurrente, inferioribus lanceolatis acutis subæqualibus, corollæ labio inferiore stipitato maximo cymbiformi.

Character of the Genus, Coleus. Calyx ovate bell-shaped, with five teeth, of which the upper one is ovate membranous, the four lower narrower, all four, or at least the two lowest, pointed. Corolla with a tube projecting beyond the calyx, suddenly bent down; the limb two-lipped, the upper lip short and three- or four-cleft, the lower one entire, stalked, long, concave or boat-shaped. Stamens four, didynamous. Filaments without teeth, joined together at the base in a tube inclosing the style; anthers ovate reniform; the cells confluent. Style subulate, shortly bifid; the stigmas nearly terminal. Carpels roundish, flattened, smooth.

Description of the Species, Coleus barbatus. Stem perennial or shrubby at the base, branched and straggling below the flowering branches, ascending or erect, two or three feet high, more or less covered with stiff spreading articulate hairs. Leaves opposite, stalked ovate, blunt, crenated, narrowed at the base, rather thick and rough,

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Reference to the Dissections.



1, Stamina, showing their connection in a sheath. 2, A detached flower.

usually downy and more or less covered with stiff appressed hairs, of a light green when fresh, whitish when dry, two or three inches in length. RACEMES terminal, simple, often attaining a foot in length. consisting of a series of false whorls or verticillasters of six to ten flowers each, and placed at intervals of from half an inch to an inch or more. FLORAL LEAVES resembling bracts, sessile, broadly ovate with a long point, entire, concave, membranous, smooth, of a light green, longer than the calyx, and forming a tuft at the top of the young spike, but always falling off before the flowers expand. TRUE BRACTS none. PEDICELS erect, about two lines long, simple, one-flowered. CALYX resembling those of the Basil, nodding, bell-shaped, more or less violet coloured and covered with stiff hairs, the upper division broad, ovate, and pointed, the four lower ones lanceolate, pointed, and nearly equal to each other. COROLLA of a violet blue, often more or less mixed with white; the tube slightly gibbous on the under side at the base, bent downwards at a right angle where it leaves the calyx, and dilated into a short broad throat; the upper lip broad, short, bent back, emarginate or with four very short obtuse teeth, marked in front with an orange spot; the lower lip nearly horizontal, large, boat-shaped, pointed and entire. STYLE shortly and equally bifid at the extremity. CARPELS very smooth.

POPULAR AND GEOGRAPHICAL NOTICE. This plant belongs to a very numerous group among the Labiatæ, natives of the hotter part of the old world, with a very few species scattered over tropical America, and which, as far as were known in the days of Linneus, were collected by that great master under the name of Ocimum; but as the ten or eleven species known to him have gradually increased to above a hundred and sixty, various divisions of the group have been proposed, and they now constitute twelve genera, which appear to be better characterized and more natural than many of our old European genera of Labiatæ. Indeed, were the slight modifications derived from the calyx and bracts, which have alone served as the basis of many of the Linnean characters, to be applied to the Asiatic and African Ocimoideæ, the present number of their genera would be again doubled, at the least. Coleus, to which the present species belongs, contains above thirty species; some of them much resembling, it is true, in habit, the Plectranthi, with which they have been sometimes associated, but all of them distinguished by so remarkable a character amongst Labiatæ, the monadelphous stamens, that it appeared impossible not to give it a generic value. Indeed, under the Linnean arrangement, were the

principles upon which the value of that system is supposed to depend, its artificial preciseness, to be acted upon without regard to natural affinities, the Colei should be removed from the Class of Didynamia to be placed under Monadelphia. Modifications in the calyx and inflorescence furnish three distinct divisions or sections in the genus to which the names of Calceolus, Aromaria and Solenostemon have been given, and the latter has again been subdivided into three others on the same principle; the species here figured belongs to the section Calceolus, having the apparently verticillate inflorescence and reflexed calyx of Ocimum.

The whole tribe of Ocimoideæ, including, besides the above-mentioned plants, the extensive American genus Hyptis, with some small groups allied to it, and the European Lavender, is, perhaps, the most marked amongst Labiatæ by the direction of the stamens, which are *declinate*, or bent downwards upon the lower lip of the corolla, instead of ascending against the upper lip, as in most other Labiatæ. It was this circumstance that induced Linneus and his immediate followers to suppose the flower to be resupinate, and that what appeared to be the lower lip was, in fact, the upper one; but, when once the study of natural affinities induced botanists to consider more closely the real nature of the different organs of plants, the error was detected. It was long since pointed out by Poiteau, and fully explained by Brown, and yet there remain determined followers of Linneus, who, because he made great strides in the advancement of the science, think that no one could, after him, go still farther; and in this respect as in so many others, still persist in copying his characters, as the best that human ingenuity can invent.

The Colei are spread over the tropical regions of the old world, not one of them having yet been found in America. One species, belonging to the section Solenostemon has been gathered in Western Africa, the remainder of that section are natives of the warmer parts of India, and of the islands of the Indian ocean, especially of the Indian archipelago, where there are probably numerous species yet unknown. Aromaria includes only one species, the Coleus aromaticus, a native of the Indian peninsula. The Calceoli are mountain plants from the Arabian and Indian peninsula, as well as from the Himalayas. Coleus barbatus is not uncommon amongst rocks at a moderate elevation, in Nepal, Kamaon, Mysore, as well as the peninsula.

The Coleus aromaticus, mentioned above, is much cultivated in India for the strong aromatic smell of its leaves, which they preserve in our stoves, where the plant is frequently to be met with, and deserves attention on that account, although its flowers are not showy. They are, however, interesting as being usually in a peculiar state of monstrosity, which shows what is the normal structural type of the Labiatæ. It has long been admitted that, as in the greater

number of Monopetalæ, the flower of Labiatæ is formed on a pentamerous type, that is to say, that if the irregular flower in this order were made regular, five would be the number of parts in each floral verticillum. In the calyx and corolla this number is evident in most species, and only rarely reduced to four. In the stamina four is the usual number, but the frequent accidental presence of the fifth, leaves no doubt as to their normal number and position; but with regard to the ovarium, some discussion has arisen as to the degree of reduction which has taken place. It is well known that the fruit consists of four parts, which were once called naked seeds, and are now designated as carpels, and many have supposed each of these parts to be really a distinct carpel, in which the reduction here would be no greater than in the case of the stamina; and the fact of there being always four divisions to the style in Cleonia, without any addition to the number of carpels, seemed to confirm this view. Further consideration, however, induced many botanists to contend that the supposed carpels were, in fact, but semi-carpels; and that the fruit really consisted of two bipartite carpels, corresponding to the two branches of the style. For in other orders where the style is divided, the divisions are usually equal to, or greater than, not less than the number of carpellary leaves; and the close analogy between Labiatæ and Verbenaceæ, where there are certainly but two, would be destroyed, were the Labiatæ supposed to have four carpels. This position receives a strong confirmation from the flowers of the Coleus aromaticus, in which the deficient parts of the ovary are often more or less developed; and where, in the most perfect cases, there are five divisions to the style, to each of which there correspond two lobes of the ovary, making, in the whole, ten of these semi-carpels. A similar monstrosity, though to a less degree, may sometimes be seen in cultivated specimens of Sideritis Canariensis.

G.B.

INTRODUCTION; WHERE GROWN; CULTURE, This rare plant was received from India, in 1838, by his Grace the Duke of Northumberland, to whose condescension we are indebted for the opportunity of figuring it. In a botanical point of view it is exceedingly interesting, and not unworthy of attention by the mere florist. Of the mode of culture adopted, we have no specific information.

### DERIVATION OF THE NAMES.

COLEUS from κολεος, a sheath, the staminal tube forming a sheath round the style. BARBATUS, bearded.

### SYNONYMES.

PLECTRANTHUS BARBATUS. Andrews's Botanist's Repository, t. 594.
PLECTRANTHUS COMOSUS. Botanical Magazine, t. 2318.
OCIMUM ASPERUM. Roth. Novæ Plantarum Species, p. 263.
PLECTRANTHUS ASPER. Sprengel: Systema, v. 2, p. 690.
COLEUS BARBATUS. Bentham: Labiatarum Genera et Species, p. 49, omitting the Synonymes of Forskol and Vahl.

*Rhododendron Indicum.*

# RHODODEN'DRON IN'DICUM.

var. Lateritium.

## BRICK-COLOURED INDIAN RHODODENDRON, OR AZALEA.

EXOGENÆ, OR { Natural division to which this plant belongs. } DICOTYLEDONEÆ.

### NATURAL ORDER, ERICACEÆ.

CALYCIFLORÆ, OF DECANDOLLE. { Artificial divisions to which this Plant belongs. } PENTANDRIA, MONOGYNIA, OF LINNEUS.

No. 160.

**GENUS.** Rhododendron. *Linnæus.* Calyx quinque-partitus. Corolla hypogyna, vel infundibuliformis vel subcampanulata, limbo quinquefido vel rarius septemfido, æquali, vel sub-bilabiato. Stamina hypogyna vel imæ corollæ inserta, ejusdem laciniis numero æqualia (5), vel sæpius duplo (10) vel (14); filamenta filiformia, adscendentia; antheræ muticæ, loculis apice poro obliquo dehiscentibus. Ovarium quinque-decemloculare, loculis multiovulatis. Stylus filiformis. Stigma capitatum. Capsula globosa vel oblonga, quinque-decemlocularis, septicide quinque-decemvalvis, columna centrali placentifera libera. Semina plurima, testa laxa, reticulata, scobiformia. Frutices vel arbores, in Europæ et Asiæ mediæ alpibus, in America boreali, in Indiæ terra continenti et insulis spontanei; foliis alternis, integerrimis, semper virentibus vel deciduis, floribus corymbosis speciosis, luteis, roseis purpureis vel albis. *Endlicher:* Genera Plantarum, p. 759.

**SPECIES.** Rhododendron Indicum, (*Linnæus*) varietas, lateritium. (Azalea Indica, var. lateritia). Foliis spathulatis-obtusis, floribus pentandris læte lateritiis, corollis tubuloso-campanulatis.

**Character of the Genus, Rhododendron.** Calyx five-parted. Corolla hypogynous or subcampanulate, limb five- rarely seven-cleft, equal or slightly two-lipped. Stamens hypogynous or inserted into the base of the corolla, equal in number with the segments of the corolla, and in that case five, or more frequently double, and then ten, or fourteen; filaments filiform, ascending, anthers not pointed, the cells opening by an oblique pore at the summit. Ovary five- or ten-celled, cells containing many ovules. Style filiform; stigma capitate. Capsule globose or oblong, five- or ten-celled, becoming either five- or ten-valved, by a septicidal dehiscence; the column central, free, and placentiferous. Seeds numerous; testa loose, reticulated, appearing as if sprinkled with particles of dust.

**Description of the Species, Rhododendron Indicum, Variety brick-coloured.** A shrub, two or three feet high, branched, branches numerous, giving a very bushy appearance to the plant. Leaves alternate, almost sessile, oblong or spathulate, alternate at the base, dark

green, very hairy, thin. FLOWERS terminal, solitary, or rarely twin. CALYX small, five-toothed. COROLLA large, shewy, of a brick-red colour towards the base, but lighter towards the margin; tube short; limb spreading, five-lobed, lobes blunt, or slightly emarginate. STAMENS five, of nearly equal length; filaments slender; anthers two-celled. OVARY globose; style one, slender, longer than the stamens; stigma capitate.

POPULAR AND GEOGRAPHICAL NOTICE. The genus Azalea has been merged by Professor Don in that of Rhododendron, and every one who studies the subject must acquiesce in the propriety of this step. No difference of sufficient value to constitute a generic distinction existed between them, for the mere circumstance of the stamens being five in the one (Azalea) and ten in the other (Rhododendron), is inadequate to justify their separation. The species formerly referred to Azalea have deciduous leaves, while the Rhododendrons have evergreen ones; but these characters are only useful for sectional distinctions. As at present constituted, the genus contains all those species which belong to the sections Anthodendron (Reichenbach), Rhodora (Linneus), Eurhododendron, Booram, and Hymenanthes (Blume), which last has fourteen stamens. The numerous species occur in the Alpine regions of Europe and central Asia, in North America, and on the continent and islands of India. Our present species is a native of China, and is regarded by Mr. Reeves as a mere sport from the Rhododendron (Azalea) Indicum variegatum, an opinion which the appearance of the foliage strongly confirms. It most probably grows in the southern and warmer parts of China, as it flourishes best when kept warm. The lofty site of several varieties of Rhododendron is mentioned in the preceding article, and their beauty in such places must excite the admiration of the traveller.

INTRODUCTION; WHERE GROWN; CULTURE. Introduced in 1823, by Mr. Mc Killigan. The plant from which the drawing was taken flowered in the collection of Messrs. Rollisson of Tooting. It requires bog earth, and to be kept in the conservatory, but some time previous to flowering it may be advantageously put into a bark stove.

### DERIVATION OF THE NAMES.

RHODODENDRON, as in the preceding plant. (Azalea) is from Ἀζαλεος, dry, alluding to the soil where it grew. INDICUM, Indian; LATERITIUM from LATER, a brick, in reference to the colour.

### SYNONYME.

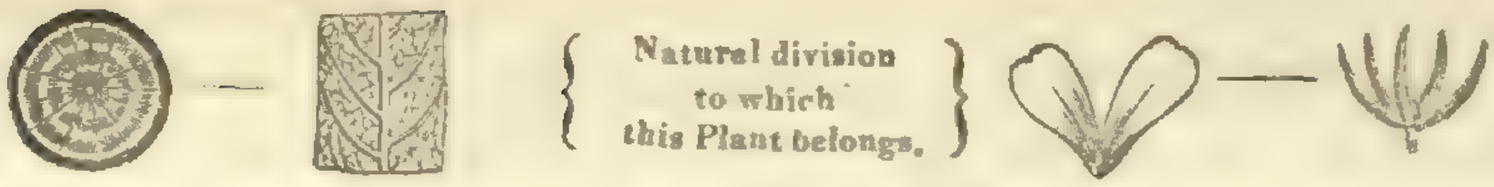
AZALEA INDICA, VAR. LATERITIA. Lindley: Botanical Register, t. 1700.

*Dahlia scapigera.*

# DAH'LIA SCAPIG'ERA.

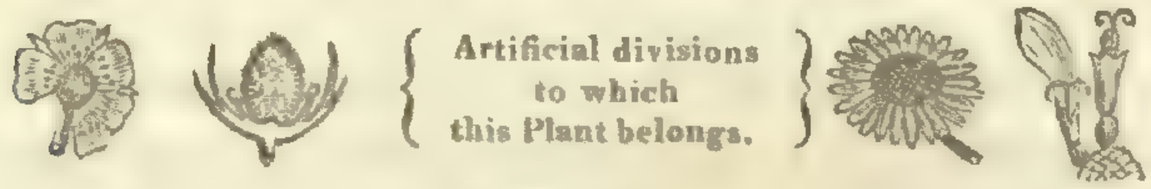
## SCAPE-BEARING DAHLIA.

EXOGENEÆ, OR DICOTYLEDONEÆ.




NATURAL ORDER, COMPOSITÆ.

CALYCIFLORÆ, OF DECANDOLLE.




SYNGENESIA, SUPERFLUA, OF LINNEUS.

No. 161.

GENUS. Dahlia. *Cavanilles.* Capitulum radiatum, floribus radii ligulatis fœmineis neutrisve, disci tubulosis quinquedentatis. Involucrum duplex, exterius squamis foliaceis uniserialibus circiter quinque patulis reflexisve, interius squamis octo ad sedecim subbiserialibus longis apice membranaceis, basi crassiusculis, et inter se coalitis. Receptaculum planum paleaceum paleis membranaceis *oblongis indivisis.* Styli *rami erecti vel subincurvi,* crassi, extus piliferi. Antheræ ecaudatæ, appendiculatæ. Achænium oblongo-obovatum obcompressum epapposum apice obsolete bicorne. Herbæ Mexicanæ. Folia opposita pinnatipartita vel bipinnatipartita. Rami apice mono- vel oligocephali. Capitula heterochroma, nempe disco luteo, radio purpureo, roseo albo aut flavescente. *Decandolle.* Prodromus, v. 5 p. 494.

SPECIES. Dahlia scapigera. *Link et Otto.* Caule humili basi ramoso ramis adscendentibus scapiformibus paucifoliatis unifloris vel, subtrifloris foliis pinnatipartitis, ligulis fœmineis fertitibus.

Character of the Genus, Dahlia. Flowerhead radiate, the florets of the ray ligulate, female or neuter, those of the disk hermaphrodite, tubular, usually 5-toothed. Involucre double, the external consisting of about five spreading or recurved leaflets, the internal of from eight to sixteen erect long leaflets, arranged imperfectly in two rows, membranous at the top, thick at the base and connected together. Receptacle flat, with oblong entire membranous scales. Branches of the style erect or slightly curved, thick, and bearing hairs outside. Anthers without tails, but with appendages at the top. Achænium oblong, ovate, compressed at the top, without a pappus but obscurely two-horned at the top.

Description of the Species, Dahlia Scapigera. Roots fasciculate, some of them cylindrical and fibrous, others swelling into oblong tubers. Stem short, procumbent or even trailing at the base, dividing out immediately into a number of nearly erect branches, nearly smooth as well as the whole plant, some of them one or two feet high, bearing a single pair of leaves, and two or three flowers, others reduced to a one-flowered peduncle. Leaves opposite, pinnately divided, the com-

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Reference to the Dissections.

1, Style of a floret of the disk. 2, Involucre. 3, The same cut open showing the stamina. 4, a floret of the disk. 5, A floret of the ray.

mon stalk four to eight inches long, furrowed on the upper side, and slightly dilated at the base so as to clasp the stem. LEAFLETS five or seven, rarely more, oval, blunt, irregularly and coarsely toothed, the lateral ones opposite to each other, usually very unequally contracted at the base and the pairs remote from each other, the terminal one rather larger, equal at the base and gradually contracted, and generally very near to the last pair. PEDUNCLES six or eight inches, or even more in length, smooth, naked or bearing a single linear leaflet. FLOWER HEADS nodding as in the rest of the genus, about two inches and a half in diameter. INVOLUCRE smooth, the external leaflets oval lanceolate, blunt, stiff, slightly spreading, five in number; inner leaflets always eight in the flowers hitherto seen, twice as long as the external ones, oval-oblong, membranous and blunt, thickened and connected together at the base. FLORETS of the ray, as many as the inner leaflets of the involucre, white, oval oblong, with two to five minute teeth, female and fertile. PALEÆ of the receptacle oval, oblong, membranous, half the length of the involucre. FLORETS of the disk, yellow. STYLE projecting beyond the floret, the branches straight, diverging, thick, broad, and conspicuously hairy.

POPULAR AND GEOGRAPHICAL NOTICE. As the Dahlia excelsa, figured in the second volume of the Botanist, No. 88, is the giant of the genus, so may the present species be considered as the dwarf, but far from being despicable on that account, it is likely that it may prove to be a much more useful acquisition than its gigantic unwieldy congener. Reduction in the stature has, indeed, been one of the great desiderata amongst Dahlia growers, where the object is to embellish a flower garden, rather than to decorate a drawing room, or to display in an exhibition tent; and as the Dahlia scapigera seems already to show a disposition to sport, it is probable that from its great affinity to the common Dahlia variabilis it may be made to cross with that species, and produce a number of valuable dwarf hybrid races.

The Dahlia scapigera, like the rest of the genus, is a native of Mexico, although the precise locality does not appear to have been recorded.

G. B.

INTRODUCTION; WHERE GROWN; CULTURE. This new species was received into the Birmingham Horticultural Society's Garden, from the Berlin Royal Garden, in 1838. It is a very distinct species, not exceeding two feet in height, and comes into flower earlier than the common species—a quality which is desirable. It requires exactly the same treatment as our well-known Dahlia.

### DERIVATION OF THE NAMES.

DAHLIA, in honour of Professor Dahl, of Copenhagen. SCAPIGERA, scape-bearing.

### SYNONYMES.

DAHLIA SCAPIGERA. Link et Otto. Knowles Floral Cabinet, t. 118.

Erica coccinea.

# ERI'CA COCCIN'EA.

Var. echiiflora.

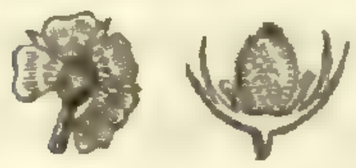
## ECHIUM-FLOWERED SCARLET HEATH.

EXOGENÆ, OR DICOTYLEDONEÆ.

{ Natural division to which this Plant belongs. }

NATURAL ORDER, ERICACEÆ.

CALYCIFLORÆ, OF DECANDOLLE.



{ Artificial divisions to which this Plant belongs. }

OCTANDRIA, MONOGYNIA, OF LINNEUS.

No. 162.

**GENUS.** Erica. *Linnæus.* Calyx æqualis profunde quadrifidus vel sæpius quadripartitus. Corolla tubulosa hypocrateriformis urceolata campanulata vel globosa, limbo brevi quadrifido erecto recurvo revoluto vel stellato patente. Stamina octo rarius sex vel septem sub disco hypogyno sæpe glanduloso inserta. Filamenta libera vel rarissime submonadelpha. Antheræ terminales vel laterales ad insertonem filamenti calcaribus duobus subulatis cristatisve auctæ vel muticæ. Ovarium quadriloculare vel rarius octoloculare loculis pluriovulatis. Stigma capitatum vel rarius dilatato-peltatum, integrum vel quadrifidum. Capsula quadrilocularis rarius octolocularis, loculicide dehiscens. Semina in loculis plurima, placentis axilibus. Frutices Europæi vel maxima parte Austro-Africani. Folia verticillata rarius sparsa. Pedicelli uniflori axillares vel terminales bi-tribracteati.

**SPECIES.** Erica coccinea, var. echiiflora. Foliis quadri senis, pluribusve linearibus patentibus incurvis latiusculis rigidis, floribus dense verticillato-spicatis, sepalis ovato-lanceolatis obtuse acuminatis viscido-puberulis margine glanduloso-ciliatis subnudisve, corollis clavato-tubulosis subincurvis leviter costatis viscidulis glabriusculis calyce vix triplo longioribus, fauce subcontracta, antheris inclusis mutieis, ovario villoso.

Character of the Genus, Erica. Calyx deeply four-cleft, or more frequently divided into four distinct sepals of equal size. Corolla tubular, salver-shaped, pitcher-shaped, bell-shaped or globular, with a short 4-cleft limb which is erect, recurved, rolled back or spreading. Stamens eight, rarely six or seven, inserted under a hypogynous disk which is frequently glandular. Filaments free or slightly monadelphous. Antiers terminal or lateral, with or without two subulate, or crest-shaped appendages at the insertion of the filaments. Ovary, four-celled, rarely eight-celled, each cell with many ovules. Style filiform. Stigma capitate, or sometimes broad and peltate, entire, or four-lobed. Capsule four, rarely eight-celled, splitting through the middle of the cells into as many valves. Seeds numerous in each cell, attached to central placentæ.

Description of the Species Erica coccinea, echium flowered variety. Stem erect, with long twiggy branches, covered with a very short whitish down. Leaves spreading, usually six in a

whorl, linear, somewhat sharp, smooth, or with a little roughness on the edges, convex and furrowed underneath, four or five lines long, FLOWERS axillary, crowded together in a short spike below the tops of the branches. PEDUNCLES short, slightly downy and clammy. BRACTS lanceolate, just below the calyx. SEPALS ovate-lanceolate, pointed, green, clammy, with a few short hairs, about two and a half lines long. COROLLA red, seven or eight lines long, tubular, slightly incurved and swollen in the middle, contracted at the base, and also a little at the mouth, clammy and somewhat ribbed, the limb erect or recurved, with short broad blunt divisions. STAMENS included in the corolla. FILAMENTS filiform. ANTHERS oval, nearly terminal, without appendages. OVARY covered with hairs.

POPULAR AND GEOGRAPHICAL NOTICE. This is one of those varieties of which a considerable number exist in our gardens, all coming very near to the true Erica coccinea, but with a shorter corolla of a colour more of a purple or a pink red than scarlet and only differing from each other in slight shades of colour, and in the more or less open throat of the corolla, and as these are individual differences only perceptible to the eye of the gardener, the botanist considers them all as one short-flowered variety of the coccinea. It is probable that some of them may be hybrids, and in particular the individual here figured, yet it is impossible to find any positive marks to distinguish it from the wild short flowered coccinea, a species readily known amongst others of the same group, by the broad green calyx not keeled.

The tubular flowered Heaths with lateral flowers form two groups, of which the one, called by Salisbury Callibotrys has large petaloid or scariose sepals, and anthers usually awned; and the other, Pleurocallis of Salisbury, to which Erica coccinea belongs is known by pointed sepals not scariose, and anthers always without appendages. This group or section bears also a remarkable affinity to that called Hermes by Salisbury, which differs only in the shortness of its flowers a character that removes it form among the tubular heaths. G. B.

INTRODUCTION; WHERE GROWN; CULTURE. The individual variety here figured was raised from Cape seeds, in the collection of John Willmore, Esq. of Oldford, Staffordshire.

### DERIVATION OF THE NAMES.

ERICA from the supposition that the Erica of the ancients was a Heath. COCCINEA, scarlet.

### SYNONYMES.

ERICA ECHIIFLORA. Andrews's Heathery, t. 260. Loddiges: Botanical Cabinet, t. 364.

ERICA GLANDULOSA. Wendland: Ericæ fasc. 13, with a figure, but not of Thunberg.

Erica Lambertiana

Miller del.

Berit sculp

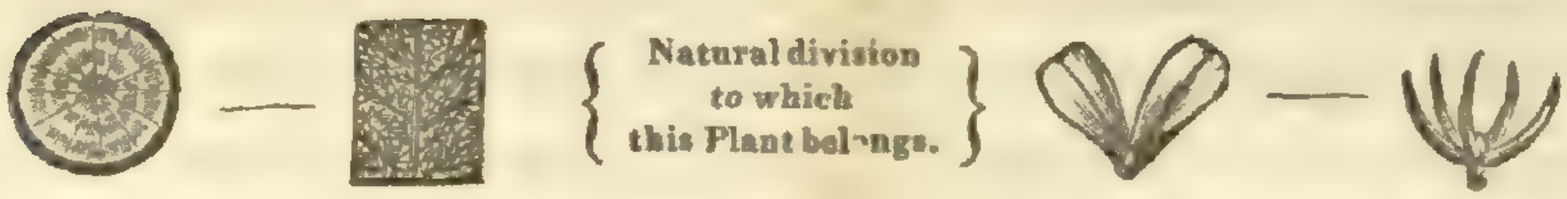
# ERI'CA LAMBERTIA'NA.

Var. Rubescens:

## MR. LAMBERT'S HYBRID HEATH.

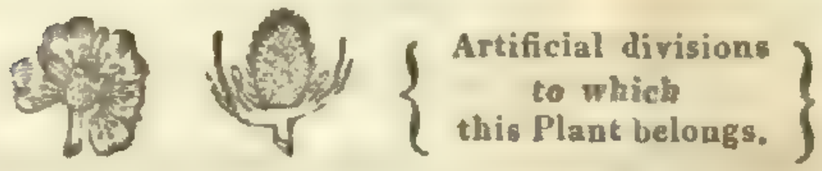
Reddish variety.

EXOGENÆ, OR DICOTYLEDONEÆ.




NATURAL ORDER, ERICACEÆ.

CALYCIFLORÆ, OF DECANDOLLE.




OCTANDRIA, MONOGYNIA, OF LINNEUS.

No. 163.

GENUS. ERICA. *LINNÆUS.* CALYX æqualis profunde quadrifidus vel sæpius quadripartitus. COROLLA tubulosa, hypocrateriformis urceolata campanulata vel globosa, limbo brevi quadrifido erecto recurvo, revoluto vel stellatopatente. STAMINA octo rarius sex vel septem, sub disco hypogyno sæpe glanduloso inserta. FILAMENTA libera vel rarissime submonadelpha. ANTHERÆ terminales vel laterales, ad insertionem filamenti calcaribus duobus subulatis cristatisve auctæ vel muticæ. OVARIUM quadriloculare vel rarius octoloculare loculis pluriovulatis. STIGMA capitatum vel rarius dilatato-integrum vel quadrifidum. CAPSULA quadrilocularis rarius octolocularis loculicide dehiscens. SEMINA in loculis plurima, placentis axilibus. FRUTICES Europææ vel maxima parte Austro-Africanæ. FOLIA verticillata, rarius sparsa. PEDICELLI uniflori axillares vel terminales bi-tribracteati.

HYBRIDA. ERICA LAMBERTIANA. (*ANDREWS.*) FOLIIS 3-4-nis subreflexopatentibus linearibus obtusis rigidis glabris, floribus irregulariter axillaribus terminalibusve pedicellatis, bractiis linearibus remotis, sepalis lato-lanceolatis obtusis, corolla inflata urceolata viscosa, antheris cristatis inclusis, ovario glabro.

CHARACTER OF THE GENUS, ERICA. CALYX deeply four-cleft, or more frequently divided into four distinct sepals of equal size. COROLLA tubular, salvershaped, pitcher-shaped, bell-shaped, or globular, with a short four-cleft limb, which is erect, recurved, rolled back, or spreading. STAMENS eight, rarely six or seven, inserted under a hypogynous disk which is usually glandular. FILAMENTS free or slightly monadelphous. ANTHERS terminal or lateral, with or without two subulate or crest-shaped appendages at the insertion of the filaments. OVARY four-celled, rarely eight-celled, each cell with many ovules. STYLE filiform. STIGMA capitate, or sometimes broad or peltate, entire or four-lobed. CAPSULE four, or rarely eight-celled, splitting through the middle of the cells into as many valves. SEEDS numerous in each cell, attached to central placentæ.

DESCRIPTION OF MR. LAMBERT'S HYBRID HEATH. STEM erect, two or three feet high, stiff and branching. LEAVES three, or sometimes four in a whorl, spreading or reflexed, oblong, linear, blunt, thick, flat above, marked underneath with a broad furrow, smooth, the

margin occasionally somewhat cartilaginous and minutely toothed. PEDUNCLES solitary, or two or three together at the end of short lateral branches, so as frequently to appear axillary, three to six lines long, with three coloured bracts at some distance from the calyx. SEPALS broad, lanceolate, obtuse, coloured, slightly keeled at the top, clammy, about one third the length of the corolla. COROLLA about four lines long, thick and clammy, varying from pale red to nearly white, the tube nearly globular, the limb short, erect, with four roundish very blunt divisions. STAMENS and PISTIL included in the flower. FILAMENTS flattened. ANTHERS oblong, with two appendages, lanceolate, and toothed or hairy at the base, ending in a fine point. OVARY smooth.

POPULAR AND GEOGRAPHICAL NOTICE. Our great Heath collectors, Mr. Niven and Mr. T. Masson, appear to have been the first to dedicate a species to Mr. Lambert, then already known as a great patron of botany, and an intimate friend of Mr. Hibbert, on whose account Mr. Niven's expedition was undertaken. The original herbaria, however, of these collectors, show that they applied this name to several species which have been published under other names and more especially to the Erica vernix and physodes, and the name of Lambertiana has been transferred by gardeners to a set of hybrids raised from physodes and some allied species; and although the plant, here figured, differs slightly in the colour of the flower, and in the breadth of the appendages to the anthers, from the ordinary Lambertiana, yet as the origin is evidently the same, and as these slight differences always occur between any two individual hybrids raised from the same parents, it would be useless to coin a new name. Like a great proportion of hybrid heaths it is more ornamental, bearing a larger number of flowers than its parent, though probably requiring rather more care in cultivation. Like our last subject, this was raised at Oldford, in 1835, under the attentive management of Mr. T. Williams. G. B.

### DERIVATION OF THE NAMES.

ERICA, from the supposition that the Erica of the ancients was a Heath.
LAMBERTIANA, in honour of A. B. Lambert, Esq. Vice President of the Linnean Society.

### SYNONYMES.

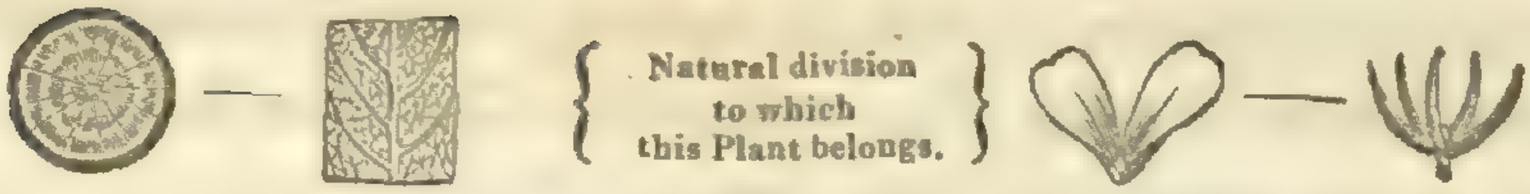
ERICA LAMBERTIANA. Loddiges' Botanical Cabinet, t. 3.

*Hoya funiculosa.*

# HO'VEA PUN'GENS.

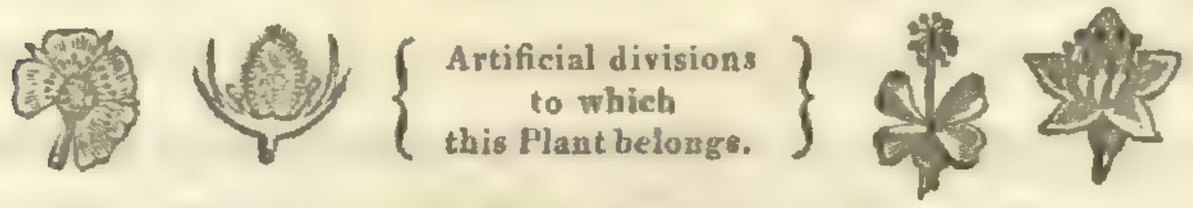
## PUNGENT HOVEA.

EXOGENEÆ, OR DICOTYLEDONEÆ.




NATURAL ORDER, LEGUMINOSÆ.

CALYCIFLORÆ, OF DECANDOLLE.




MONADELPHIA, DECANDRIA, OF LINNEUS.

No. 164.

GENUS. Hovea. *R. Brown.* Calyx bilabiatus, labio superiore lato retuso vel semibifido, inferiore minore tripartito. Vexillum explanatum. Alæ oblongæ vexillo breviores, carinâ obtusâ longiores. Stamina omnia connexa vel decimo plus minusve libero, vagina antice vel utrinque fissa. Antheræ alternæ ovatæ medifixæ, alternæ oblongæ adnatæ. Ovarium bi- vel tri-ovulatum. Stylus adscendens filiformis glaber. Stigma obtusum, nudum. Legumen subrotundum obliquum, ventricosum. Semina strophiolata. Suffrutices fruticesve Australasici. Folia alterna simplicia. Flores axillares purpurei aut violacei.

SPECIES. Hovea pungens. (*Bentham.*) Foliis linearibus margine revolutis reticulatis glabris vel pilosulis rigidis apice mucronato-pungentibus, stipulis setiformibus, pedicellis calyce parum longioribus, ovario stipitato glabro.

Character of the Genus, Hovea. Calyx two-lipped, the upper lip broad, retuse, or semibifid, the lower much smaller and three-cleft. Standard spreading. Wings oblong, shorter than the standard, longer than the blunt keel. Stamens all united, or the tenth more or less free, the tube split in front, or both front and back. Anthers alternately oval and versatile, and oblong and adnate. Ovary with two or three ovules. Style ascending, filiform, smooth. Stigma, blunt, naked. Pod roundish, oblique, swollen. Seeds with a strophiola.

Description of the Species, Hovea pungens. Stem erect, shrubby, stiff, the young branches downy. Leaves alternate, simple, sessile, half to three quarters of an inch long, spreading, linear, stiff, ending in a sharp pungent point, the margin revolute, transversely reticulate, smooth or slightly hairy. Stipules stiff, one or two lines long, subulate. Pedicels usually solitary, short, one-flowered, curved downwards, bearing at the top two small bracts, similar to the stipules and close to the calyx, and about half its length. Calyx covered with soft appressed hairs, curved, the upper lip very large and truncate, slightly emarginate, the divisions of the lower lip, narrow, and about half the length of the upper one. Corolla of a deep violet

purple. STAMENS monadelphous, the sheath split in front. OVARY smooth, stipitate, with two or three ovules.

POPULAR AND GEOGRAPHICAL NOTICE. The genus Hovea, rich in ornamental species, extends along the South Eastern portion of Australia, from Moreton Bay on the East Coast, to King George's Sound, on the south coast, some species being also found in Van Diemen's Land. It is a very natural and distinct group, all the species having considerable affinity to each other, and being readily distinguished from other genera by characters necessarily minute in an order so vast as that of the Leguminosæ, but constant. The flowers are always more or less blue or purple, and the calyx is unlike that of any other genus, except Platylobium and Bossiæa, which have yellow flowers. The leaves in most of them are variable in form, being much broader in the lower part of the plant. The species, which is the subject of the present article, is a native of King George's Sound, and is easily known by its narrow pungent leaves. It is one of the most brilliant in colour, and, when well grown, becomes nearly as full of flower as the Hovea chorozemæfolia. G. B.

INTRODUCTION; WHERE GROWN; CULTURE. The seeds of Hovea pungens were first gathered at King George's Sound, by Charles Baron Hugel, and raised, amongst a great variety of Australian plants, collected by him, at his establishment at Hietzing, near Vienna, where it first flowered, in the spring of 1837, and was figured in the second number of a publication, commenced at Vienna, in imitation of the Botanical Register, but which does not appear to have been as yet continued. From Baron Hugel Messrs. Rollisson obtained this species, and it was at their nursery, at Tooting, that our drawing was made. It is as easy of cultivation as other New Holland Papilionaceæ.

### DERIVATION OF THE NAMES.

HOVEA, named by R. Brown in honour of Anthony Pantaleon Hove, a traveller who introduced many Persian and Crimean plants to the Kew Gardens.

### SYNONYMES.

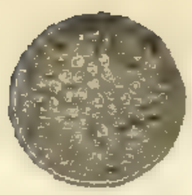
HOVEA PUNGENS. Bentham, in Hügel's Enumeratio, p. 36. Botanisches Archiv, t. 7.

*Epidendrum Schomburghii.*

# EPIDEN'DRUM SCHOMBURG'KII.

## SCHOMBURGK'S EPIDENDRUM.

ENDOGENÆ,



Or

{ Natural division to which this plant belongs. }

MONOCOTYLEDONEÆ.

## NATURAL ORDER, ORCHIDACEÆ.

GYNANDROSÆ, OF LINDLEY.

{ Artificial divisions to which this Plant belongs. }

GYNANDRIA, MONANDRIA, OF LINNEUS.

No. 165.

GENUS. EPIDENDRUM. *LINNÆUS.* PERIGONII foliola exteriora patentia, subæqualia, interiora æqualia vel angustiora aut rarius latiora. LABELLUM ungue cum marginibus columnæ omnino vel partim concreto, limbo integro vel partito, disco sæpius calloso, costato vel tuberculato, interdum in calcar ovario adnatum productum. COLUMNA elongata, clinandrio marginato, sæpius fimbriato. ANTHERA carnosa, bi-quadrilocularis. POLLINIA quatuor, caudiculis totidem replicatis. HERBÆ Americanæ tropicæ epiphytæ, caule pseudobulboso vel elongato, foliis sæpius carnosis.

SPECIES. EPIDENDRUM SCHOMBURGKII (*LINDLEY*) foliis distichis oblongis obtusis carnosis, caule simplici apice aphyllo squamoso, sepalis petalisque lineari-lanceolatis acutis æqualibus patentissimis, columna clavata elongata, labelli trilobi basi bicalloso linea mediana elevata, lobis lateralibus latis rotundatis laceris, intermedio cuneato apice triangulari crispo medio et utrinque acuminato.

CHARACTER OF THE GENUS, EPIDENDRUM. PERIGON spreading, the outer divisions nearly equal, the inner ones equal to them, or narrower, seldom broader. LABELLUM with the claw connate with the column, either along its whole length or in part; the limb entire or divided; the disk usually callous, ribbed, or tuberculate, sometimes extending into a spur adhering to the ovary. COLUMN elongated; the receptacle of the anther bordered, usually fringed. ANTHER fleshy, two or four-celled. POLLEN MASSES four, with as many bent back caudicles.

DESCRIPTION OF THE SPECIES, EPIDENDRUM SCHOMBURGKII. EPIPHYTE growing to the height of two or three feet, without pseudobulbs. STEM leafy in its lower half, having in the upper part none but closely appressed sheathing squamæ. LEAVES sheathing at the base, distichous, spreading, oblong, blunt, thick and fleshy, spotted with dark pink in a wild state, according to Schomburgk, generally two or three inches long. FLOWERS in a terminal raceme, which from the closeness of the pedicels to each other, takes the form of a loose head. PEDICELS simple, one-flowered, each at the axil of

a small bract. OVARY long, curved. SEPALS and PETALS all similar and equal, spreading, lanceolate, pointed, narrowed at the base, above half an inch, or nearly three-quarters in length, of a rich scarlet. LABELLUM borne on a claw which is connate with the column, into a club-shaped scarlet tube with a yellow orifice, rather shorter than the petals; the limb broadly orbicular, more or less deeply divided into three broad obovate, cuneate lobes, irregularly fringed on the margin; at the base are two projecting calli, and between them a projecting longitudinal line.

POPULAR AND GEOGRAPHICAL NOTICE, The genus Epidendrum which, in the days of Linneus and his immediate successors, was the common receptacle for nearly all tropical Orchidaceous Epiphytes known at that time, was first reduced to its natural limits by Brown, and, as adopted by Lindley, it remains at once a well-defined and a very numerous genus; probably the most numerous in America, to which hemisphere it is strictly confined. Every collection from the hotter parts of that country furnishes some new species, and the seventy-one enumerated by Lindley, in 1831, are, perhaps, now nearly doubled. The one here figured, one of the finest of the genus, chiefly from the richness of its colour, was discovered at the foot of the mountain Attarypon, near the Rupunoony, in British Guiana, by M. Schomburgk, who in a letter to Dr. Lindley, quoted in the Botanical Register, states that he found it growing, in company with Coryanthes on a tree on the banks of the river, exposed to full light. The description made in the same work, taken from dried specimens and from a drawing of M. Schomburgk's, and the anticipations as to its beauty, have been fully confirmed now that the plant has flowered in our stoves, G. B.

INTRODUCTION; WHERE GROWN; CULTURE. This was drawn from plants sent over to this country to the Messrs. Loddiges, in whose epiphyte house it flowered in great perfection last spring. Its culture would be the same as mentioned under No. 116.

### DERIVATION OF THE NAMES.

EPIDENDRUM, from επι EPI, upon, and δενδρον DENDRON, a tree, in allusion to the mode of growth of this sort of plants. SCHOMBURGKII, in honour of M. Schomburgk.

### SYNONYME.

EPIDENDRUM SCHOMBURGKII. Lindley: Botanical Register. 1838, p. 15, t. 53.

*Rutea cynaroides.*

# PRO'TEA CYNAROI'DES.

## ARTICHOKE-LIKE FLOWERED PROTEA.

EXOGENÆ OR DICOTYLEDONEÆ.

NATURAL ORDER, PROTEACÆ.

MONOCHLAMYDÆ, OF DECANDOLLE.

TETRANDRIA, MONOGYNIA, OF LINNEUS.

No. 166.

GENUS. PROTEA. *LINNÆUS.* INVOLUCRUM imbricatum polyphyllum, persistens, receptaculum multiflorum, paleis abbreviatis persistentibus obsessum cingesn. PERIGONIUM bipartibile, inæquale, labii latioris laminis tribus cohærentibus. STAMINA quatuor, apicibus concavis laminarum perigonii inserta. SQUAMULÆ quatuor hypogynæ. OVARIUM uniloculare, uniovulatum. STYLUS subulatus; stigma augustius cylindraceum. Nux monosperma, undique barbata, stylo persistente caudata. FRUTICES capenses, etiam in Abyssinia reperti, modo proceriores, fere arborescentes, modo subacaules; foliis integerrimis, capitulis terminalibus vel rarius lateralibus, receptaculo planiusculo vel interdum convexo, sæpius glabro, nonnunquam paleis connatis alveolato, involucro magno colorato, turbinato vel hæmisphærico, perigonii labio latiore sæpe bi-tri-aristato. *ENDLICHER:* Genera Plantarum, p. 337.

SPECIES. PROTEA CYNAROIDES. *LINNÆUS.* FOLIIS subrotundis petiolatis, involucris sericeis, bracteis interioribus acutis, imberbibus, stylo infra medium pubescenti. *SPRENGEL.*

CHARACTER OF THE GENUS, PROTEA. INVOLUCRUM imbricated, many-leaved, persistent, surrounding the receptacle, which is many-flowered, and beset with persistent shortened paleæ. PERIGONE divisible into two portions, unequal, the three segments of the broader lip cohering. STAMENS four, inserted into the concave tops of the segments of the perigone. SCALES four, hypogynous. OVARY one-celled, containing one ovule. STYLE subulate; stigma narrower, cylindrical. NUT one-seeded, clothed throughout with beard-like hairs, and terminated by the persistent style, resembling a tail.

DESCRIPTION OF THE SPECIES, PROTEA CYNAROIDES. A low shrub, the stem being rarely two feet, erect, simple, wrinkled. LEAVES alternate, petiolate, petioles roundish, wrinkled, devoid of hairs, about an inch in length, the lamina smooth, spreading, entire, roundish, or obscurely mucronate, shining. FLOWER a terminal capitula, very large, of an ovate form, the numerous scales of the involucre progressively becoming larger from the base to the summit, oblong, acute, all of them covered with a silky down, those near the base brownish, the upper ones of a delicate pink, deeper on the inner side especially at the margins. RECEPTACLE flattish. PERIGON with a long tube, separable at the top into two lips, unequal, entirely clothed with a white down. STAMENS

four, inserted into the concave tips of the perigone, filaments short, anthers linear, or tapering, yellow. OVARY oblong, hairy, style one, awl-shaped, stigma slender, projecting beyond the perigon, of a bright red colour. NUT hairy, crowned by the persistent style.

POPULAR AND GEOGRAPHICAL NOTICE. This most magnificent species, even of the superb genus Protea, is a native of the Cape of Good Hope, growing on the sides and summits of mountains. It is, indeed, a wonderful thing to see a flower of its size, nearly as large as a child's head, borne on so diminutive a stem, for it is sometimes scarcely one foot in height. Protea grandiflora which comes nearest this in the size of the flower, has a tall branched stem. Protea pulchra and Protea speciosa, have likewise large heads of flowers, yet far inferior to the present subject, the dimensions of which cannot be estimated from the plate, as the figure is reduced to at least half the natural size. A question may be asked, what purpose does this extraordinary magnificence in the flower serve? It is at present impossible to answer, as no direct use is made of any part of the numerous species of Protea, except for firewood; yet the flower of Protea rubens and Protea mellifera contain much sweet juice, which would be acceptable to the bees if they grew in the open air, Common as Proteaceous plants are in Australia, not one species of the genus Protea has been found there; indeed, they are strictly confined to the Cape of Good Hope, save one, Protea abyssinica, mentioned in Bruce's Travels, quarto edition, vol. V, appendix, p. 52, with a plate.

INTRODUCTION; WHERE GROWN; CULTURE. This plant was introduced into Britain, in 1792, by Messrs. Lee and Kennedy, Hammersmith nursery. It is a hardy greenhouse plant. "The best soil is light turfy loam, mixed with rather more than one third of fine sand; the pots must be well-drained with broken potsherds. Care must be taken not to let them droop for want of water, as the young roots are of a very fleshy substance, and soon suffer by two much drought, as well as by too much wet, so that they seldom recover, if suffered to flag too much. They also like to be placed where they may have a free circulation of air, as they cannot bear to be crowded, like some more rigid-growing plants. Ripened cuttings, taken off at a joint, and pared quite smooth, will strike root, if planted thinly in pots of sand, placed under a hand-glass, but not plunged: the glasses must be often taken off, to give them air."

### DERIVATION OF THE NAMES.

PROTEA, from Proteus, alluding to the great diversity of appearance of the genus.
CYNAROIDES, from cynara, the artichoke, and oides, resemblance.

### SYNONYMES.

PROTEA CYNAROIDES. Thunberg. Prodromus Floræ Capensis, 28. Dissertation, 59. Linneus, Mantissa, 190. Andrews's Botanist's Repository, IV. pl. 288. Botanical Magazine, 770.

*Eschynanthus parasitica.*

# ÆSCHYNAN'THUS PARASI'TICA.

## PARASITIC ÆSCHYNANTHUS.

EXOGENÆ, OR DICOTYLEDONEÆ.

{ Natural division to which this Plant belongs. }

### NATURAL ORDER, GESNERACEÆ.

CALYCIFLORÆ, OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }

DIDYNAMIA, ANGIOSPERMIA, OF LINNEUS.

No. 167.

GENUS. ÆSCHYNANTHUS. *JACK.* CALYX quinquedivisus, tubulosus vel partitus. COROLLA bilabiata. STAMINA antherifera quatuor, antherarum loculis parallelis. STIGMA indivisum, dilatatum, subinfundibuliforme. CAPSULA elongata, valvis strictis. SEMINA pendula, apice nuclei affixa, utrinque pilifera, pilo inferiore unico, superiore unico duplici pluribusve. SUFFRUTICES in arborum cortice radicantes, foliis oppositis æqualibus integerrimis coriaceis, venis obsoletis. *BROWN*: in Plantæ Javanicæ Rariores, p. 115.

SPECIES. ÆSCHYNANTHUS PARASITICA. (*WALLICH.*) FOLIIS lanceolatis, calyce anguste campanulato semiquinquefido glabro, laciniis ovatis acutis, corolla filamentisque hirtis, seminibus extremitate superiore ditrichis.

CHARACTER OF THE GENUS, ÆSCHYNANTHUS. CALYX five-cleft, either tubular with five teeth, or divided nearly to the base. COROLLA two-lipped. STAMENS four, fertile, the cells of the anthers parallel. STIGMA undivided, dilated, somewhat funnel-shaped. CAPSULE elongated with straight valves. SEEDS pendulous, fixed by a nucleus at the top, bearing threads at both ends, one only at the lower end; one, two, or more at the upper end.

DESCRIPTION OF THE SPECIES, ÆSCHYNANTHUS PARASITICA. A climbing shrub, which in its native country spreads over the stems of trees, sending forth roots which penetrate into the outer bark of the trees, and give the plant the appearance of a parasite, although in fact it is rather an epiphyte, in the manner of the generality of tropical orchidaceæ. BRANCHES smooth and somewhat fleshy, though more slender than in other species; the flowering branches pendulous in the wild state. LEAVES opposite, on short footstalks, lanceolate, three to six inches long, ending in a long but not sharp point, perfectly entire, contracted at the base, smooth, thick, and fleshy, usually a little folded upwards along the mid-rib and waved on the margin, without any lateral veins. FLOWERS in terminal sessile umbels, of about six flowers, each flower on a pedicel of from a quarter to half an inch in length.

In the wild state in which the flowering branches hang, each pedicel is recurved so that the flowers, though reflexed with relation to the stem, are, in fact, ascending; in our stoves where the stems have been hitherto unnaturally trained upwards, the pedicels do not lengthen so much, and are straight, so that the flowers are erect or nearly so, and in a closer head. CALYX bell-shaped, but not spreading, smooth, green, half an inch long, divided to about the middle into five narrow ovate pointed lobes. COROLLA tubular, from an inch and a half to near two inches long, swelling above the middle and more or less incurved, covered with short hairs, of a rich vermilion colour in the specimens which have flowered in this country, but described as varying to orange or brick red; the limb cleft into five erect divisions, nearly equal to each other and obscurely arranged in two lips, the two upper divisions being less deeply cleft, and the lowest rather longer and narrower than the rest. STAMENS exserted, the filaments hairy, the anthers oblong, joined two and two together by their apex. STYLE exserted, smooth, with a large oblique peltate or somewhat funnel-shaped stigma. CAPSULE eight or ten inches long, very narrow. SEEDS very numerous and minute, with two white hairs at the upper end and one at the lower, each hair very slender and about half an inch long, that is to say, full twelve times the length of the seed.

POPULAR AND GEOGRAPHICAL NOTICE. Although the Orchidaceæ form by far the greatest proportion of the epiphytes, which adorn the stems of trees in damp tropical climates, yet they are far from being the only ones. Several Gesneriaceæ of other genera, besides Melastomaceæ, Rubiaceæ, Asclepiadaceæ, &c. have long since received, on this account, the specific name of parasite, and are often objects of great beauty. Hitherto, indeed, they have been but little known, partly from the difficulty of preserving specimens of thick fleshy plants as they usually are, and partly from the art of cultivating them being a creation, as it were, but of yesterday. But now that attention is so much turned to this branch of horticulture, it is to be hoped that we may soon see our epiphyte houses as varied and rich as our other stoves; and surely none can better deserve a place in them than the splendid genus of which the plant here figured is the first, and hitherto the only, representative which has found its way to this country. It is a native of Sylhet, a province of Bengal and has long been cultivated in the Calcutta Botanic Garden, having been, till of late years, almost the only spe-

cies known, but the labours of Jack, Horsfield, Wallich, and Griffith, have now increased the number to twelve, as enumerated in the most valuable account of Cyrtandreæ, just published, by Robert Brown, and it is probable that the number yet to be discovered in the Indian archipelago is very large.

The memoir just referred to, drawn up by Mr. Brown on the occasion of describing one of the Cyrtandreæ, figured in Horsfield's Plantæ Javanicæ Rariores, besides several important observations on some obscure points of structural botany, contains a most valuable review of the limits and affinities of the group, and an enumeration of genera with accurate and concise characters. He clearly shews that those botanists who have endeavoured to establish the American Gesneriaceæ and the Asiatic Cyrtandraceæ as two distinct natural orders, have relied upon characters which in some cases have proved vague or fallacious, in others not to agree with the geographical distinctions which they had served to establish. Indeed, in one instance, a Mexican plant, supposed to be a distinct genus of American Gesneriaceæ, (the Klugia of Schlechtendal,) turns out upon examination to be but a species of the East Indian Cyrtandreous genus Glossanthus. He, therefore, unites the whole into one natural order under the name of Gesneriaceæ, divided into three tribes; the Gesnerieæ with an adherent ovarium and albuminous seeds; the Besleriеæ, with a free ovarium and the seeds of Gesnerieæ; and Cyrtandreæ, also with a free ovarium, but little or no albumen to the seeds.

The order, thus formed, it must be admitted, is a very natural one, differing botanically from the extensive order of Scrophulariaceæ by the ovary always consisting of a single cell instead of two. In appearance they are usually much handsomer, having seldom that weedy look peculiar to a large number of Scrophulariaceæ, and the flowers being very frequently scarlet, or a rich purple, or blue, colours very uncommon in Scrophulariaceæ, and even where they are pale or whitish, their large size often compensates for their want of colour. They are therefore, in general, most desirable acquisitions, for though they mostly require stove heat, they are either herbs or low shrubs, or at any rate will produce their flowers before they attain any great height, and few good collections are now without some species of Gesnera, Gloxinia, Trevirana, or Streptocarpus, although by far the greater number, and many of the most conspicuous, are only known as yet by dried specimens,

G. B.

INTRODUCTION; WHERE GROWN; CULTURE. We owe the introduction of this valuable addition to our stove collections, to Dr. Wallich, the zealous superintendant of the Calcutta Botanic Gardens, who transmitted plants, some years since, to his Grace, the Duke of Northumberland, from one of which, by his Grace's obliging permission, our drawing was taken in January last. Other persons in this country received it also, probably from the same source, as a fine flowering specimen appeared last year, amongst Mrs. Lawrence's collection, at one of the exhibitions of the Horticultural Society. In both instances the plant has been grown and trained in the manner of terrestrial stove plants in which it will thrive well, but the flowers are placed in the unnatural position above mentioned; it is, therefore, to be expected that if treated like the more creeping kinds of orchidaceous epiphytes and allowed old bark to cling to and to hang from, not only would the general appearance be more natural and graceful, but the size and beauty of the heads of flowers would be much increased. When cultivated as a terrestrial plant its soil should be a vegetable compost, light, and well drained. The sort of pot in which this and similar plants are kept, is a matter of more moment than is usually believed; they should be soft and pervious to moisture, not made retentive of water by hard burning.

### DERIVATION OF THE NAMES.

ÆSCHYNANTHUS from *αισχυνη* modesty, and *ανθος* a flower. PARASITICA, parasite.

### SYNONYMES.

INCARVILLEA PARASITICA. Roxburgh Coromandel Plants, v. 3, t. 291.
ÆSCHYNANTHUS GRANDIFLORUS. G. Don: General System, v. 4, p. 656.
ÆSCHYNANTHUS PARASITICA. Wallich: List, n. 796. Brown: Plantæ Javanicæ Rariores, p. 115.

*Physalis Schraderiana.*

# PHYSA'LIS SCHRADERIA'NA.

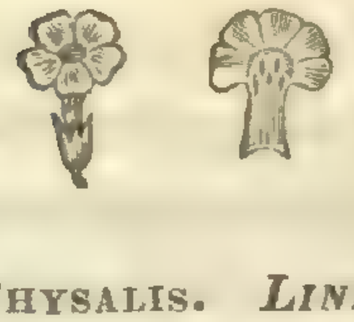
## SCHRADER'S PHYSALIS.

EXOGENEÆ, OR DICOTYLEDONEÆ.

{ Natural division to which this Plant belongs. }

## NATURAL ORDER, SOLANACEÆ.

COROLLIFLORÆ, OF DECANDOLLE.



{ Artificial divisions to which this Plant belongs. }

PENTANDRIA, MONOGYNIA, OF LINNEUS.

No. 168.

GENUS. Physalis. *Linnæus.* Calyx quinquefidus, post anthesin increscens, fructifer plus minusve apertus v. sæpius clausus. Corolla plicata, in anthesi campanulato-rotata, limbo quinquelobo. Stamina quinque, subæqualia. Antheræ utrinque longitudinaliter dehiscentes. Bacca calyce erecto inclusa vel circumdata, subglobosa, plus minusve succulenta, cortice tenaci. Semina numerosa, compressa, subreniformia. *Bernhardi*, in Linnæa, v. 13, p. 360.

SPECIES. Physalis Schraderiana (*Bernhardi*) suffruticosa, erecta, viscoso-pubescens, foliis binatis inæqualibus oblique cordato-ovatis integerrimis vel repando-dentatis, calyce post anthesin clauso, fructifero aperto, ultra medium quinquefido, staminibus exsertis.

Character of the Genus, Physalis. Calyx five-cleft, increasing in size after the flowering is over; more or less open when the fruit is ripe, or more frequently closed, Corolla folded in the bud, rotate or somewhat bell-shaped; the limb of five divisions. Stamens five, nearly equal. Anthers opening by two longitudinal slits. Berry inclosed or surrounded by the calyx, nearly globular, more or less fleshy, with a tough skin. Seeds numerous, compressed, nearly reniform.

Description of the Species, Physalis Schraderiana. Stem perennial, somewhat shrubby at the base, erect, a foot or rather more in height. Branches spreading, clothed, as well as the leaves, the peduncles, and calyxes, with clammy glandular hairs. Leaves growing generally two together, but of very unequal sizes, the larger ones often four or five inches long, borne on a stalk of an inch to an inch and a half, ovate, ending in a blunt point, entire, waved, or coarsely toothed on the margin, obliquely heart-shaped at the base. Peduncles one-flowered, collected three to five together, in irregular umbels in the axils of the leaves, of unequal lengths. Flowers drooping. Calyx large and foliaceous, deeply five-cleft, five-angled, closing over the young fruit after the corolla has fallen off, but opening again as the fruit ripens. Corolla rotate, with an exceedingly short tube, of a pale yellowish white, an inch and half in diameter, deeply five-cleft,

the divisions ovate and marked on the base with spots of an olive green; throat bearded. STAMENS exserted, at first slightly so, with the anthers close together, but lengthening after the flowers are open and spreading. FRUIT a red globular berry.

POPULAR AND GEOGRAPHICAL NOTICE. In a paper on this plant, lately published in the Linnæa, by Professor Bernhardi, it is clearly shown that it is much nearer to the more usual forms of Physalis or Winter Cherry, than to Ruiz and Pavon's Saracha, and indeed he proposes, not, perhaps, without reason, to join both genera into one, which would consist of five sections, distinguished from each other chiefly by the calyx, which during the flowering is the same in all, excepting in as much as it is more or less deeply cleft. In the common Winter Cherry, to which he gives the sectional name Alkekengi, the calyx is not cleft to the middle, and encloses the fruit at its maturity, in Physalis somnifera, which is Mœnch's Physaloides and Don's Hypnotica, the calyx is the same but the fruit not so succulent; in Physalis atriplicifolia, Bernhardi's section Megistocarpus, the calyx is not cleft to the middle, it surrounds the fruit, but is open after the corolla has fallen off; in our plant, for which he makes the section Cycolis, the calyx closes over the young fruit, but is quite open when it is ripe, and is cleft below the middle; finally, in the true Saracha, the calyx, cleft nearly to the middle, never closes at all, nor surrounds the fruit.

The genus Physalis thus extended, is chiefly American, but with a few African and East Indian species. There appears to be some uncertainty as to the precise country where the species figured came from. We have not access to the garden catalogue, in which Schrader originally published it, nor do we possess wild specimens. It is probably, however, a native of Mexico. G. B.

INTRODUCTION; WHERE GROWN; CULTURE. It was first raised in Germany; and seeds of it were transmitted thence to this country some years ago. Our drawing was made from a plant growing in her Majesty's garden at Kew, where it has greenhouse protection, but will grow with little care. During summer it may be turned into an open border of light earth, where it will flower, and ripen its berries.

### DERIVATION OF THE NAMES.

PHYSALIS from φυσαλις, a name derived from φυση a bladder, given by Dioscorides to a plant which Linneus supposed to be our winter cherry. SCHRADERIANA, after Professor Schrader of Munich, who first published this plant as a Saracha.

### SYNONYMES.

SARACHA VISCOSA. Schrader: in a Garden Catalogue. Don: in Sweet's Flower Garden, t. 323.

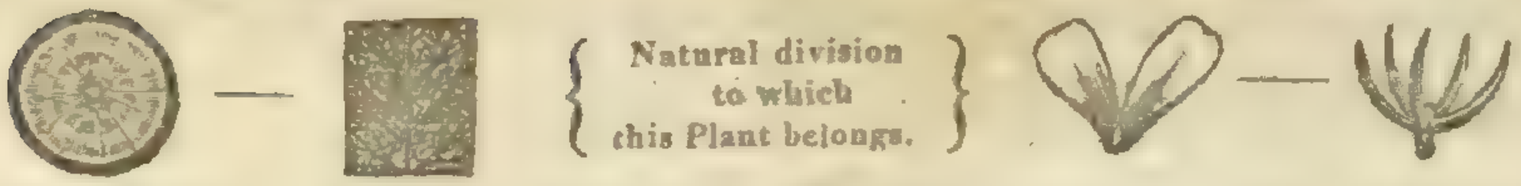
PHYSALIS SCHRADERIANA. Bernhardi: in the Linnæa, v. 13, p. 361.

*Mimulus puniceus.*

# MIM'ULUS PUNICE'US.

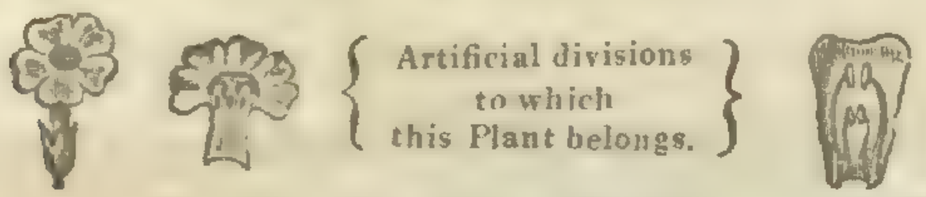
## SCARLET MIMULUS.

EXOGENÆ OR DICOTYLEDONEÆ.




## NATURAL ORDER, SCROPHULARINACEÆ.

COROLLIFLORÆ, OF DECANDOLLE.




DIDYNAMIA, ANGIOSPERMIA, OF LINNEUS.

No. 169.

GENUS. MIMULUS. *LINNÆUS.* CALYX tubulosus, quinque angulatus, quinquedentatus. COROLLA bilabiata, quinquefida, lobis subæqualibus. STAMINA quatuor, tubo corollæ inclusa, didynama. ANTHERÆ biloculares, loculis divergentibus vel divaricatis sæpe confluentibus. OVARIUM biloculare, placentis dissepimento adnatis. STIGMA bilamellatum. CAPSULA bilocularis, loculicide bivalvis, valvis integris, medio septiferis, dissepimento demum apice fisso vel integro, rarius a valvulis sublibero. SEMINA numerosa, minima, utrinque subulata. HERBÆ suffruticesve. FOLIA opposita dentata vel rarius integerrima. PEDUNCULI axillares, oppositi, solitarii, uniflori, bracteati; superiores sæpe racemosi.

SPECIES. MIMULUS PUNICEUS. FRUTICOSUS, viscosus, glaber, foliis lanceolatis acutiusculis subserratis penninerviis, pedicelli saxillaribus folio brevioribus, calycibus elongatis plicatis, dentibus lineari-lanceolatis val deinæqualibus.

CHARACTER OF THE GENUS, MIMULUS. CALYX tubular, five-angled, five-toothed. COROLLA two-lipped, divided into five nearly equal lobes. STAMENS four, didynamous, included in the tube of the corolla. ANTHERS with two diverging or divaricate cells, often confluent. OVARY two-celled, the placentæ adhering to the dissepiment. STIGMA of two plates. CAPSULE two-celled, splitting across the cells into two valves, which adhere by their centre to the dissepiment, or rarely separate from it. SEEDS numerous, minute, slender, and pointed at both ends.

DESCRIPTION OF THE SPECIES, MIMULUS PUNICEUS. A SHRUB or under-shrub of two or three feet high, smooth, but very glutinous, BRANCHES erect, green, and herbaceous, acquiring sometimes a purplish hue, nearly cylindrical. LEAVES of a dark green, very glutinous, lanceolate, rather more pointed than in Mimulus glutinosus, slightly toothed, contracted at the base where they embrace the stem; and those of the same pair are slightly connate. PEDICELS solitary, axillary, from half an inch to an inch long, without bracts, bearing a single flower. CALYX nearly an inch long, slender, with five prominent angles ending in five narrow lanceolate or linear teeth, of which the upper one is much the longest. COROLLA altogether nearly as long again

as the calyx, of a rich scarlet colour; the tube straight and projecting from the calyx; the limb spreading, divided into five nearly equal, bluntly emarginate lobes, arranged in two lips. CAPSULE oblong, the dissepiment adhering to the valves and splitting, together with the placentæ, from the apex to below the middle.

POPULAR AND GEOGRAPHICAL NOTICE. This species scarcely differs from the old Mimulus glutinosus, excepting in the colour of the flower; and, perhaps, in its larger stature and more pointed leaves; but in both these respects the Mimulus glutinosus appears to vary very much. The two species, together with two or three others, like them, natives of North California, have been considered by M. Nuttall a distinct genus, to which he has given the name of Diplacus, derived from the only character which separates it from Mimulus, the splitting of the dissepiment into two portions at the maturity of the capsule. It may be observed, however, that in several Mimuli (as for instance Mimulus cardinalis) there is a partial splitting, or an intermediate state between the deeply split dissepiment of Nuttall's Diplaci and the entire one of other Mimuli, that in almost all cases the valves adhere to the dissepiment, and when they appear to be free, it is only because they are so thin and fragile, that they are, as it were, torn from it. This character has not, therefore, that constancy which is necessary to constitute a good artificial genus, and it is admitted by all, that in habit and general appearance the Diplaci do not form a good natural genus as distinguished from Mimulus, which it appears much more convenient to retain in its original integrity.

The genus thus extended has a wide geographical range, being an inhabitant of North America, Chili, Australia, East India, and the South-eastern portion of Africa. No species are ever found in North Africa, Europe, or North-western Asia. G. B.

INTRODUCTION; WHERE GROWN; CULTURE. This plant was introduced in 1837, by the Messrs. Low of Clapton, who received it from the nursery of Mr. Buist of Philadelphia. Our drawing was made in the garden of the Birmingham Horticultural Society, in July, from a plant then three feet high. It requires the protection of a greenhouse or well-protected frame, during winter; but in summer, will not only grow freely in the open ground, but will flower there till prevented by frosty weather. Cuttings strike root readily in a gentle heat.

### DERIVATION OF THE NAMES.

MIMULUS, from the Greek *μιμω* MIMO, a monkey. PUNICEUS, scarlet,

### SYNONYME.

DIPLACUS PUNICEUS. Nuttall: in the Botanical Magazine, t. 3655.

*Cadochortus flavus*

# CALOCHOR'TUS FLA'VUS.

## YELLOW CALOCHORTUS.

ENDOGENÆ, OR MONOCOTYLEDONEÆ.

{ Natural division to which this plant belongs. }

NATURAL ORDER, TULIPACEÆ.

HYPOGYNOSÆ, OF LINDLEY.

{ Artificial divisions to which this Plant belongs. }

HEXANDRIA, MONANDRIA, OF LINNEUS.

No. 170.

GENUS. Calochortus. *Pursh*. Perigonium corollinum, deciduum, hexaphyllum; foliola sessilia vel subunguiculata, interiora supra basim fovea nectarifera et intus barbata, exteriora minora, foveolata vel subplana, nuda vel intus barbata. Ovarium triloculare. Ovula in loculis plurima, biseriata, horizontalia, anatropa. Stigmata tria, subsessilia, libera vel basi coalita, reflexa, canaliculata. Capsula oblonga vel subglobosa, trigona, trilocularis, septicidotrivalvis, valvis demum bifidis. Semina in loculis plurima, uni-vel bi-seriata, horizontalia, compressiuscula, testa fusca membranacea laxiuscula hinc rhaphe percursa. Embryo rectus, teres. Herbæ Americæ borealis occidentalis, bulbosæ. Folia ensiformia, vaginantia. Flores speciosi, umbellati, racemosi vel subsolitarii. *Endlicher:* Genera Plantarum, p. 140.

SPECIES. Calochortus flavus (*Schultes*) caule subsimplici subbifloro, foliis caulinis bracteisque lineari-lanceolatis subulato-acuminatis, floribus pendulis, perigonii patentis foliolis exterioribus ovatis obtusè acuminatis, infra medium parce barbatis, interioribus obovato-rhomboideo medio barbatis.

Character of the Genus, Calochortus. Perigon of the nature of a corolla, deciduous, six-leaved; leaves sessile or shortly stalked, the inner ones marked above the base on the inside with a nectariferous pit, and bearded on the inside; the outer ones smaller, with the pit or without it, bearded inside or not. Stamens six, adhering to the base of the leaves of the perigon. Ovary three-celled. Ovules in each cell several, in two rows, horizontal, anatropous. Stigmas three, nearly sessile, free or joined at the base, reflexed, canaliculate. Capsule oblong, three-angled, three-celled, splitting into three valves along the dissepiments, the valves at length bifid. Seeds several in each cell, usually in one or two rows, horizontal, somewhat compressed; testa brown, membranaceous, rather loose, with the raphis running along it on one side. Embryo straight, cylindrical.

Description of the Species, Calochortus flavus. Bulb tunicated, the tunic composed of woody fibres. Stem erect, flexuose, simple or slightly branched, perfectly smooth, as well as the rest of the plant, about a foot and a half high, nearly simple or slightly branched. Leaves stem-clasping but scarcely sheathing at the base, long, linear,

lanceolate, ending in a fine convolute point; the upper ones shorter and broader at the base. PEDUNCLES axillary, one-flowered, erect or slightly flexuose, without bracts. FLOWERS nodding from the summit of the peduncle, yellow, spreading, from an inch and a quarter to an inch and a half in diameter. OUTER LEAFLETS of the perigon narrow, ovate, ending in a blunt point, somewhat concave, of the same petaloid consistence as the inner ones, with a few hairs in the centre but without any nectariferous pit. INNER LEAFLETS scarcely longer than the outer ones, but much broader and nearly rhomboidal, slightly fringed on the margin, much covered with hairs on the inner surface, and with a slightly marked nectariferous pit. FILAMENTS slightly dilated at the base. CAPSULE three quarters of an inch long, sharp, three-angled.

POPULAR AND GEOGRAPHICAL NOTICE. We have already stated (No. 98 of the Botanist) the connection between the Cyclobothræ of Don with the true Calochorti, and a slight inspection of the present figure will show at once how very near it is to some of the original North American species. It appears not to be an uncommon Mexican plant, growing abundantly in the dry mountainous pastures in the mining districts to the north and west of the town of Mexico. G. B.

INTRODUCTION; WHERE GROWN; CULTURE. This is one of a very large collection of bulbs imported by the Horticultural Society from Mexico, by means of their zealous and active collector M. Theodor Hartweg. Unfortunately, the French blockade of Tampico, in 1838, occasioned so much delay in the transmission of the collections of that year, that a great number had perished before they arrived; and the want of the ardent solar heat necessary for ripening bulbs of this description, are great obstacles to their multiplication in this country: attention, therefore, to this part of the culture of Mexican, Chilian, and Cape bulbs, usually much neglected, is of the greatest importance.

Calochortus flavus is usually kept in the greenhouse, but it may be flowered successfully in a warm dry border, in the open garden. Fresh loamy earth, with a free admixture of leaf-mould and sand, will be very suitable for it; and the bulbs should be planted in April, and taken up again in the autumn, after vegetation has ceased.

### DERIVATION OF THE NAMES.

CALOCHORTUS, from *καλος* handsome, and *χορτος* grass. FLAVUS yellow.

### SYNONYMES.

FRITILLARIA BARBATA. Humboldt and Kunth, Nova Genera et Species, v. 3, p. 288, t. 677.

CALOCHORTUS FLAVUS. Schultes: Systema Vegetabilium, v. 7, p. 1535.

Mrs Withers del. *Passiflora foetida Linn.* Newitt sculp.

or oblong lobes, sharp at the extremity, irregularly and sharply toothed on the margin, somewhat rugose, with a very minute pubescence, or perfectly smooth on the upper side, clothed underneath with a short soft down. CIRRÆ and flowering PEDUNCLES issuing together from the axils of the leaves; the peduncles nearly as long as the leaves, bearing, a little below the flower, three ovate foliaceous bracts, about half an inch long, and sharply toothed or cut towards the apex. TUBE OF THE CALYX about two inches long and half an inch diameter, perfectly straight and cylindrical, but with a slight swelling at the base, downy outside. DIVISIONS OF THE LIMB rather more than an inch and a half long, narrow, oblong, blunt, the dorsal nerve produced in a point a little below the apex, downy outside, smooth and coloured inside. PETALS scarcely smaller, but more intensely coloured. FILAMENTS of the outer row of the crown threadlike, nearly half as long as the petals, of a bluish purple, those of the inner row connate into a a membrane which lines the tube of the calyx down to the swollen part, where it is turned up into a kind of sheath round the staminal tube. BERRY round, somewhat egg-shaped, yellow, downy.

POPULAR AND GEOGRAPHICAL NOTICE. On comparing the above generic character with that of Passiflora, as given in Vol. 3, No. 118, of the Botanist, it will be readily seen how very near the two genera approach each other in botanical character as well as in habit, The sole difference lies in the length of the tube of the calyx, but if, as it is believed is the case, every intermediate degree may be observed in some species or another, this character unaccompanied by any other is of little value. The Tacsoniæ are all American, and they there occupy the same range and similar stations to those of Passiflora. G. B.

INTRODUCTION; WHERE GROWN; CULTURE. First raised in this country by Mrs. Marryatt in her beautiful grounds at Wimbleton, this splendid ornament of a large conservatory has spread from thence into many collections. Our drawing was made in that of Thomas Harris, Esq. of Kingsbury. It will not bear, as some anticipated, our climate unprotected, but in a conservatory it grows readily.

### DERIVATION OF THE NAMES.

TACSONIA, from Tacso, the local name of some species of the genus. PINNATISTIPULA, with pinnately cut stipules.

### SYNONYMES.

PASSIFLORA PINNATISTIPULA. Cavanilles Icones, v. 5, t. 428.

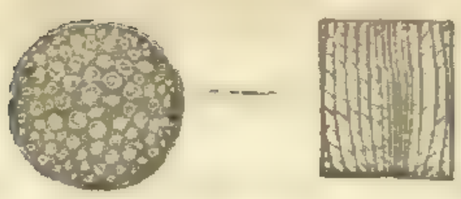
TACSONIA PINNATISTIPULA. Jussieu, Annales du Museum, v. 6, p. 393. Botanical Register, t, 1536. British Flower Garden, 2nd Series, t. 156.

*Lasanchetus parviflorus*

# LISSOCHI'LUS PARVIFLO'RUS.

## SMALL-FLOWERED LISSOCHILUS.

ENDOGENEÆ, OR MONOCOTYLEDONEÆ.



{ Natural division to which this Plant belongs. }

## NATURAL ORDER, ORCHIDACEÆ.

GYNANDROSÆ, OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }

GYNANDRIA, MONANDRIA, OF LINNEUS.

**No. 172,**

GENUS. Lissochilus. *Brown*. Perigonii explanati foliola exteriora herbacea, libera, parva, reflexa, vel uti interiora maxima, alæformia, patentia. Labellum liberum, vel cum columnæ basi connatum, saccatum, concavum, subintegrum vel trilobum. Columna brevis, erecta, semiteres. Anthera bilocularis, cristata. Pollinia duo, postice biloba, caudicula brevi lineari, glandula triangulari. Herbæ Africanæ, terrestres, acaules, pseudobulbosæ, foliis striatis vel plicatis, racemis radicalibus multifloris. *Endlicher*. Genera Plantarum, p. 201.

SPECIES. Lissochilus parviflorus, (*Lindley*), Foliis plicatis, scapo radicali sexocto-floro, sepalo supremo ovato concavo unguiculato reflexo lateralibus petalis subæqualibus patentibus, petalis oblongis subunguiculatis, labello sublibero basi auriculato, epichilio oblongo obtuso tricarinato, gibbo porrecto obtuso antice sulcato. *Lindley:* Genera and Species of Orchidaceous Plants, p. 191.

Character of the Genus, Lissochilus. Perigon spreading, the outer leaflets free, herbaceous, and either small and turned back, or, like the inner ones, broad, spreading, and wing-shaped. Labellum free, or connate with the base of the column, bag-shaped, concave, nearly entire, or three-lobed. Column short, erect, semicylindrical. Anther two-celled, crest-shaped. Pollen masses two, divided into two lobes at the back, with a short linear caudicle and a triangular gland.

Description of the Species, Lissochilus parviflorus. Pseudo-bulbs short, nearly globular. Leaves three to six, broad, linear, about a foot long, folded lengthwise. Flower-stem radical, erect, about the length of the leaves or rather longer, smooth, striate, bearing a few membranous sheathing pointed scales or bracts, and towards the top a raceme of six or eight flowers. Pedicels short, one-flowered, each at the axil of a short bract. Ovary cylindrical. Flowers smaller than several of the genus, being barely an inch in diameter. Sepals or outer divisions of the perigon green, with longitudinal streaks of a dull purple, the upper one oval oblong, rather longer than the petals and somewhat reflexed, the two

lateral ones spreading like the petals, and nearly as broad. PETALS or inner divisions streaked with red and yellow, broadly ovate or nearly orbicular, very blunt. LABELLUM free from the column, longer than the petals, three-lobed, the terminal lobe as long as the lower part, yellow, nearly orbicular, convex, marked with longitudinal plaits or streaks, of which the three central ones are more prominent; lateral lobes broad, short, turned upwards, streaked with purple inside, yellowish outside. COLUMN thick, greenish, rather shorter than the petals.

POPULAR AND GEOGRAPHICAL NOTICE. This is a small African genus which was originally separated from Eulophia on account of the great disproportion between the size of the petals and that of the sepals, which gives a very distinct appearance to the Lissochilus speciosus. If, however, the present species, and Lissochilus æqualis, are to be retained in the genus, that character disappears altogether, and it might be thought expedient to reunite Lissochilus with Eulophia, were it not for the great authority of Lindley in these matters, who in his latest works retains them as distinct. Among seven or eight species hitherto described, the greater number are found in the hills of the south-eastern districts of the Cape Colony, from Uitenhage eastward; one has been gathered at Boney in tropical Africa, and the Lissochilus Arabicus was found by Forskol in the mountains of Hadie, on the Arabian side of the Red Sea. This, the Orchis flava of Forskol, is said by him to be known under the name of Djissâb by the Arabs, who assert that the juice, applied to the prick of a thorn, will expel it from the wound; probably one of the imaginary properties so frequently attributed to plants by country people. It was gathered by Forskol on Mount Barah, near the town of Mokaja; the latter name being probably on Forskol's label with the Arabian name of the plant, has occasioned a rather ludicrous mistake, in supposing that he meant the mosque of Djygâb as the station where he found it.

INTRODUCTION; WHERE GROWN; CULTURE. The Lissochilus parviflorus was received from the province of Uitenhage, near Algoa Bay, by Messrs. Loddiges, and first flowered in their stoves in December, 1837. Our drawing was made there in the following winter. It requires the usual treatment of this class of plants.

### DERIVATION OF THE NAMES.

LISSOCHILUS, from λισσος smooth, and χειλος a lip. PARVIFLORUS, small-flowered.

### SYNONYME.

LISSOCHILUS PARVIFLORUS. Lindley: Genera and Species of Orchidaceous Plants, p. 191.

*Orthosiphon incurvus.*

# ORTHOSI'PHON INCUR'VUS.

## CURVED ORTHOSIPHON.

EXOGENÆ OR DICOTYLEDONEÆ.

{ Natural division to which this Plant belongs. }

## NATURAL ORDER, LABIATEÆ.

COROLLIFLORÆ, OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }

DIDYNAMIA, GYMNOSPERMIA, OF LINNEUS.

No. 173.

GENUS. Orthosiphon. *Bentham.* Calyx ovato-tubulosus, quinque-dentatus, dentis superioris ovato-membranacei marginibus decurrentibus alatus, post anthesin deflexus. Corolla tubo exserto recto vel incurvo nec gibboso nec defracto, limbi labio superiore tri- vel quadrifido, inferiore integerrimo concavo. Stamina quatuor, declinata. Filamenta libera, edentula. Antheræ ovato-reniformes, loculis confluentibus. Stylus apice clavato-capitatus, sub-integer vel breviter emarginatus, stigmatibus in emarginatura subconfluentibus. Herbæ suffruticesve. Racemi simplices, sæpius elongati. Verticillastri sexflori. Folia floralia bracteæformia, ovata, acuminata, reflexa, pedicellis sæpius breviora.

SPECIES. Orthosiphon incurvus, (*Bentham,*) Caule basi procumbente, ascendente, foliis petiolatis oblongis crenatis utrinque angustatis tenuissime pubescentibus, verticillastris subsecundis, corollis villosis incurvis calyce triplo longioribus, fauce subæquali, staminibus corollam subæquantibus.

Character of the Genus, Orthosiphon. Calyx ovate-tubular, five-toothed, winged by the decurrent margins of the broad membranous upper tooth, turned downwards after flowering. Corolla with a tube larger than the calyx, straight or curved, but neither gibbous nor abruptly bent down, upper lip of the limb three or four toothed, lower lip entire, concave. Stamens four, declinate. Filaments free, without teeth. Anthers ovately reniform, the cells confluent. Style terminating in a club-shaped head, entire or slightly emarginate; the stigmas confluent, terminal.

Description of the Species, Orthosiphon incurvus.* A loose straggling perennial or under-shrub. Stems branched, and often trailing at the base, ascending or sometimes erect, but usually weak and flexuose, four-angled, rough, with a short stiff down. Leaves borne on long foot-stalks, opposite, two to three inches long, oval-oblong or even oval-lanceolate, narrowed at both extremities, terminating in a blunt point, crenate on the margins, rather thick and rugose, rather rough on both sides, with minute tubercles, but without any hairs. Racemes from six inches to a foot long, terminal, simple, wavy, consisting of a number of false whorls placed at intervals of

from half an inch to an inch, consisting of six flowers, all turning more or less to one side. Floral leaves or false bracts sessile, persistent, bent downwards, ovate, lanceolate, pointed, entire, scarcely longer than the pedicels, smooth. Real bracts none. Pedicels two to three lines long, erect or spreading, simple, and one-flowered. Flowers nodding, pink. Calyx tubular, about four lines long, nearly smooth, coloured; the upper lip ovate, pointed, rolled back on the edge, and the margins slightly decurrent nearly to the base of the calyx; the lower teeth subulate, the lateral ones half as long as the two lowest. Corolla an inch long, the tube more than twice the length of the calyx, straight at the base, swelling in the upper part and more or less curved upwards; the lips spreading, about equal in length, the upper one consisting of three blunt ovate lobes, of which the middle one is broader and emarginate, the lower lip ovate, blunt, entire, slightly concave. Stamens and pistils of the length of the tube of the corolla.

Popular and Geographical Notice. Under the article Coleus barbatus, allusion has already been made to the different genera separated from the old Ocima; Orthosiphon is another of them, and perhaps one of the most natural. With the inflorescence and something of the appearance of the true Ocima, it is at once distinguished by the lengthened tube of the corolla and the peculiar capitate stigma. There are many of them handsome species, and two are remarkable for the very great length of their stamens. They are chiefly East Indian, extending also to tropical Africa, and to the Indian Archipelago; and one very distinct species, though not separable from the genus, was gathered by Tafalla near Guayaquil in South America.

G. B.

Introduction; Where grown; Culture. The Orthosiphon incurvus was first introduced, from the hills of Sylhet, to the Botanical Garden of Calcutta by the collectors employed by Dr. Wallich, and plants were sent by him in 1828, to his Grace the Duke of Northumberland, by whose permission our drawing was made in the gardens of Sion House. Of the treatment of this plant we have no information excepting that it has been kept in the stove.

### Derivation of the Names.

Orthosiphon, from *ορθος* straight, and *σιφων* a tube, in allusion to the corolla.
Incurvus curved, the corollas when fading often curling upwards in a remarkable manner.

### Synonyme.

Orthosiphon incurvus. Bentham: Labiatarum Genera et Species, p. 28.

*Alstroemeria aeutifolia.*

# ALSTRŒME'RIA ACU'TIFOLIA.

## SHARP-LEAVED ALSTRŒMERIA.

ENDOGENÆ, OR MONOCOTYLEDONEÆ.

{ Natural division to which this plant belongs. }

## NATURAL ORDER, AMARYLLIDACEÆ.

EPIGYNOSÆ, OF LINDLEY.

{ Artificial divisions to which this Plant belongs. }

HEXANDRIA, MONANDRIA, OF LINNEUS.

No. 174.

GENUS. Alstrœmeria. *Linnæus.* Perigonium corollinum superum, sexpartitum, subcampanulatum, regulare vel sub-bilabiatum, foliola interiora angustiora, duo basi subtubulosa. Stamina sex, imo perigonii inserta; filamenta erecta vel declinata, antheræ ovales, erectæ. Ovarium inferum, triloculare. Ovula in loculis plurima, horizontalia, anatropa. Stylus filiformis, directione staminum; stigma trifidum lobis replicatis. Capsula oblonga, vel globosa, trisexcostata, trilocularis, loculicido-trivalvis vel rarius baccata indehiscens. Semina in loculis plura, subglobosa, horizontalia, testa membranacea rugosa, rhaphe immersa umbilicum basilarem chalazæ apicali tuberculiformi jungente. Embryo axilis, albumine carnoso dimidio brevior, extremitate radiculari, umbilicum attingente. Herbæ in America tropica et Australi extratropica indigenæ; radicibus tuberoso-fasciculatis, caule folioso erecto, scandente vel volubili, floribus terminalibus umbellatis. *Endlicher:* Genera Plantarum, p. 180.

SPECIES. Alstrœmeria acutifolia (*Link*) Caule subvolubili, foliis petiolatis lanceolatis angusto-acuminatis subtus pubescentibus, umbella simplici, pedunculis pubescentibus, petalis longitudine æqualibus, tribus exterioribus oblongis subacutis, tribus interioribus spathulatis.

Character of the Genus, Alstrœmeria. Perigon resembling a corolla, superior, six-partite, subcampanulate, regular, or slightly two-lipped; the interior folioles narrower, two of them sub-tubular at the base. Stamens six, inserted at the base of the perigon; filament erect or declining; anthers oval, erect. Ovary inferior, three-celled. Ovules in each cell, numerous, horizontal, anatropous. Style filiform, following the direction of the stamens; stigma trifid; lobes curved. Capsule oblong or globose, three or six-ribbed, three-celled, becoming three-valved by a loculicidal dehiscence, or very rarely berried and indehiscent. Seeds in the cells numerous, subglobose, horizontal, testa membranaceous, rough; the rhaphe sunk, joining by the tubercular point of the chalaza the basilar umbilicus.

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### Reference to the Dissections.

1. Pistil, showing the depressed ovary, the triangular style, and the three-cleft stigma. 2. The six stamens, shewing their appearance before, and after, the dehiscence of the anthers.

"It is very remarkable that the stigma of Alstroemeria does not come to perfection till after the decay of its anthers. The stamens advance successively, like those of Nerine undulata, (and also of Tropæolum majus or Garden Nasturtium) and, like them, nod before they rise, the petaline filaments taking the lead, but the two upper not simultaneously with the lower. It results from this that the stigma must either be fertilized by the pollen of another flower, or that its own scattered pollen must be efficient after it seems to be dried up and lost; in either case there is a greater probability of the intrusion of the pollen of another individual, than when the stigma and anthers are mature at the same time." Herbert: Amaryllidaceæ, p. 102.

Embryo in the axis, shorter by a half than the fleshy albumen, reaching by its radical extremity to the umbilicus.

Description of the Species, Alstrœmeria acutifolia. Stem four feet or upwards, slightly twining, round, smooth. Leaves remote, resupinate, lanceolate, prolonged to an acute point, striated, dark green and smooth on the upper (under) surface, pale and downy, particularly along the nerves of the under (upper) surface. Umbel terminal, many-flowered, subsecund, surrounded at the base by an involucre of numerous slender lanceolate leaves. Pedicels round, flexuose, pubescent, with subulate bracts. Perigon subcampanulate, the folioles erect but spreading near the extremity, of nearly equal length, the outer ones (sepals) of a deep red colour, acute, the inner ones (petals) more slender, and broadly spathulate, orange-coloured, furnished with a deep-red spot near the top, and two of them marked with red streaks Stamens included in the perigon; filaments of a pale reddish purple; anthers oblong, of a bluish purple. Ovary, inferior, turbinate, three-cornered, downy. Style slender, except at the base, triangular, and terminating in a three-cleft stigma. Capsule depressed, turbinate, splitting by a loculicidal dehiscence into three valves, each containing four bright scarlet coloured seeds.

Popular and Geographical Notice. This handsome species of Alstrœmeria is a native of Mexico. We are glad to present it to our readers, that they may compare it with the hybrid, Alstrœmeria acutifolia-aurea, (fig. 137,) and perceive how far the characters have been modified in the mule plant. According to Mirbel this plant is a Bomarea, a genus which he attempted to separate from Alstrœmeria, and in which he has been followed by Mr. Herbert.

Introduction; Where grown; Culture. Sent from Berlin in 1829. It is commonly kept in the stove or greenhouse, neither of which is necessary; for at Spofforth, in Yorkshire, Mr. Herbert found it to live well at the foot of a south wall, or against the front of a greenhouse, sawdust being heaped over the roots in winter, "But it does not," he observes, "go to rest like hirtella for six months or more, and therefore is much more liable to injury, and requires more protection, but it is impatient of heat under glass in the summer. Its root is less tuberous and substantial, but it will succeed in an open border if set deeper and covered with leaves to protect it from frost.

### Derivation of the Names.

Alstrœmeria, after Alstrœmer, a Sweedish naturalist. Acutifolia, from acutus, sharp, and folium, a leaf, the pointed form of the leaf.

### Synonymes.

Alstrœmeria acutifolia. Link and Otto: Abbildungen, t. 27.
——————— Botanical Magazine, t. 3050.
Bomarea acutifolia. Herbert: Amaryllidaceæ, p. 112.

*Plerema heteromalla.*

# PLERO'MA HETEROMAL'LA.

## HETEROMALLOUS PLEROMA.

EXOGENÆ. OR DICOTYLEDONEÆ.

{ Natural division to which this Plant belongs. }

## NATURAL ORDER, MELASTOMACEÆ.

CALYCIFLORÆ, OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }

DECANDRIA, MONOGYNIA, OF LINNEUS.

### No. 175.

GENUS. Pleroma. *Don.* Calyx limbo quinquefido, tandem deciduo. Petala quinque, patentia. Stamina decem subæqualia, connectivo basi introrsum varee biauriculato, anthersis uniporosis. Ovarium setis coronatum. Capsula calyce velata, abco sublibera, quinque locularis, superne quinque rimosa. Semina numerosa, hilo basilari, reniformi-oblonga, punctulata. Frutices vel arbores plus minus setosi. Folia integerrima tri- aut pluri- nervia, opposita aut verticillata. Paniculæ terminales. Flores speciosi. Bracteæ deciduæ.

SPECIES. Pleroma heteromalla, (*Don*) Ramis obtuse tetragonis adpresse setulosis, foliis petiolatis lato ovatis basi cordatis supra subadpresse hirtis subtus albo-tomentisis, thyrso paniculato rhachi calycibusque breviter adpresse setosis, filamentis glabris connectivis postice glanduliferis.

Character of the Genus, Pleroma. Limb of the calyx five-cleft, falling off after the flowering. Petals five, spreading. Stamens ten, nearly equal, the connectivum furnished in various shapes with two auricles at the base on the inner side; the anthers terminating in one pore. Ovary crowned by bristles or hairs. Capsule inclosed in the calyx, but nearly free from it, five-celled, opening in five slits at the top. Seeds numerous, reniform-oblong, with the hilum at the base, dotted.

Description of the Species, Pleroma heteromalla, An erect shrub of several feet in height, the young branches thick, green, bluntly four-angled, covered, as well as the leaf and flower-stalks, with short appressed stiff hairs. Leaves opposite, broadly oval, blunt or with a short point, entire, heart-shaped at the base, thick, marked with five or seven nerves parting from the base, covered on the upper side with short stiff hairs, and on the under side with a white, thick, short, almost woolly down. Flowers large and showy, disposed in a terminal panicle, of which the ramifications are opposite, and bear at their extremity from three to seven sessile flowers. Bracts lanceolate, of a pinkish hue, falling off very early. Calyx tubular, covered with stiff, appressed, almost silky hairs; the limb consisting

of five lanceolate divisions, which fall off shortly after the petals. PETALS five, obovate, blunt, truncated or emarginate, of a rich purple. STAMENS short, but exserted when the flower is full blown; the filaments smooth; the anthers with very short auricles bearing a tuft of pedicellate glands.

POPULAR AND GEOGRAPHICAL NOTICE. The splendid order of Melastomaceæ forms one of the most conspicuous ornaments of the tropical regions of America, and no genus more so than the present one, including, as it no doubt should, all the Lasiandras of De Candolle. Though there are none that we can hope to grow in situations where we can fully appreciate their merits, yet they are most of them well deserving of a place in our stoves.

The total number of species of Melastomaceæ now known, including the Asiatic ones, is probably above a thousand; far too many to be confined to the two great Linnean genera, Melastoma and Rhexia, more especially as the character which usually served to distinguish them, the dry and fleshy fruit, is very uncertain, and does not in many cases agree with the habit. Accordingly several botanists, and especially De Candolle, in his Prodromus, have established divisions so as to distribute the total number into above seventy genera. More recent discoveries and observation have confirmed many of these, and modified others. Pleroma, in which the present species is placed, was originally established by Don, for this and two or three other species which he supposed to have the fleshy fruits of Melastoma. This appears to have been a mistake; and as Pleroma does not, in any other point, differ from the very natural genus Lasiandra, subsequently established, the two have now to be united under Don's original name.

G. B.

INTRODUCTION; WHERE GROWN; CULTURE. This beautiful shrub was introduced from Brazil to the Sion House Garden in 1819. Our drawing was made in September last, in the Royal Gardens at Kew. To flower this plant in perfection it must be kept in a cool stove, in a mixture of peat and loam, and have frequent removes into larger pots. It may be increased from cuttings of the young wood.

### DERIVATION OF THE NAMES.

PLEROMA, from *πληρομα*, FULLNESS, the application of which word is not very clear. HETEROMALLA, from *ἑτερομαλλο*, WHICH HAS HAIRS ON ONE SIDE, another apparently inapplicable term to a plant which is hairy all over.

### SYNONYMES.

MELASTOMA HETEROMALLA. Don: Bot. Reg. t. 644. Simms: Bot. Mag. 2337.

*Stanhopea eburnea.*

# STANHO'PEA GRANDIFLO'RA.

## GREAT-FLOWERED STANHOPEA.

ENDOGENÆ, OR MONOCOTYLEDONEÆ.

{ Natural division to which this Plant belongs. }

## NATURAL ORDER, ORCHIDACEÆ.

GYNANDROSÆ, OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }

GYNANDRIA, MONANDRIA, OF LINNEUS.

**No. 176.**

**GENUS.** STANHOPEA. *HOOKER.* PERIANTHIUM membranaceum, patentissimum vel reflexum. SEPALA libera, subundulata, mole sua ruentia. PETALA conformia, angustiora. LABELLUM liberum, anticum ecalcaratum, carnosum, utrinque cornutum: dimidio superiore (epichilio) convexo, inferiore (hypochilio) excavato. COLUMNA longissima, petaloideo-marginata. ANTHERA bilocularis. POLLINIA 2, elongata, fissa, caudicula quam glandula biloba stipitata breviore. EPIPHYTÆ pseudo-bulbosæ. FOLIA plicata. SCAPI radicales, vaginati, pauciflori. FLORES maximi, magis minusve maculati.

**SPECIES.** STANHOPEA GRANDIFLORA (*LINDLEY*) labello oblongo, non medio constricto, hypochilio pone basin bicorni, epichilio ovato-triangulare, metachilio duplo longiore solido plano convexo antice truncato bidentato; scapo pendulo bi- (vel tri-) floro.

CHARACTER OF THE GENUS, STANHOPEA. PERIANTH membranous, spreading wide or reflexed. SEPALS free, subundulate, falling by their weight. PETALS similar, narrower. LABELLUM free, projecting forward, without spur, fleshy, toothed on each side; upper half convex, lower concave. COLUMN very long, with a petal-like border. ANTHER bilocular. POLLEN MASSES two, elongated, cleft, caudicula shorter than the bilobular stipitate gland.

DESCRIPTION OF THE SPECIES, STANHOPEA GRANDIFLORA. PSEUDO-BULBS ovate, furrowed, dark green, monophyllous, encased when young with several lanceolate, elongated, equitant, subherbaceous, marcescent scales, which inclose the young leaf. LEAF broadly elliptico-lanceolate, dark green, coriaceous, glabrous and shining, attenuated into a channelled petiole, and having 5-7 principal nerves, which are rigid, prominent behind, channelled in front; petiole articulated upon the apex of the pseudo-bulb. SCAPE arising from below the pseudo-bulb, pendulous, flexuose, with large elliptical sheathing bracts, generally two-flowered, but we have repeatedly had three flowers on the same scape. FLOWERS five inches across, with a strong perfume

much resembling that of Philadelphus coronarius, white excepting some purple marks on the upper side of the lip, which vary in extent in different specimens, and also excepting the column, which is pale glaucous-green. LATERAL SEPALS very large, ovate, cucullate at the base, where, also, they cohere for a little way; CENTRAL SEPAL lanceolato-elliptical, narrower but as long as the lateral ones, reflexed. PETALS ovato-lanceolate, rather shorter and much more narrow than the sepals, spreading, reflexed in their sides. LIP about as long as the petals, slipper-shaped, cartilaginous, very thick in the middle of its length, this tumid portion (metachilium) being abruptly truncated in its upper surface both behind and before, anterior to which the lip is continued to form a large, nearly flat, triangular point (epichilium) which is slightly waved, and equalling about one-third of the whole length of the lip, flanked at its base on each side by a vertical rounded lobe, the projecting side of the metachilum; posterior to the metachilium the lip is formed into a deep cup (hypochilium) projecting forwards under the surface of the metachilium for nearly one half of the length of this, pretty closely lined with yellow pubescence, and having from the edge projecting forwards, on each side, a subulate tooth which differs considerably in length in different varieties, and is more or less curved. COLUMN as long as the lip (three inches) and forming a flat arch above it, rounded above, flattened below, and having near its apex two colourless, diaphonous, broad wings, and a blunt tooth on each side of the clinandrium. ANTHER CASE rhomboid. POLLEN MASSES two, obovate, grooved behind towards their outer edge, shortly stipitate, and rising from the sinus of a cordate, thin, and colourless gland, which projects over the horizontal narrow stigmatic cavity, a slender subulate prolongation from the middle of the edge of the clinandrium, passing along its under surface, and two much shorter having the same origin, being placed at its sides. GERMEN longer than the perianth, bent a little forward at the apex, and as much back at the base, very little twisted, divided longitudinally into three distinct spaces by three double lines.

POPULAR AND GEOGRAPHICAL NOTICE. The genus Stanhopea is confined to tropical America, extending over this from Brazil to Mexico, but it is thought that the range of each species is small. This certainly is not the case with the species now described, which we have in the Edinburgh Botanic Garden from Brazil, Demerara,

and Trinidad. Professor Lindley doubted this, and considered the fact of Stanhopea grandiflora having been obtained from Trinidad, and Stanhopea eburnea from Brazil, as giving importance to other characters pointed out by him. Not one of these characters, however, distinguish all plants of the two sections from each other, but they nevertheless are not identical in all respects. In the Trinidad plant, the pseudo-bulbs are broader, much less attenuated at the apex, and perhaps rather larger than those of our Brazil plant; the petals are spathulato-linear, but attenuated and slightly curved downwards at the apex, revolute, and then turned in behind the lateral sepals, but not reflexed in their sides. The anther gland is more cordate than in the Brazil plants. We have, however, enough of variation among the Brazil plants themselves to satisfy one that these are mutable circumstances, and certainly make no approach to a specific distinction, though the appearance of the pseudo-bulbs did make me believe, before the Trinidad plants came into flower, that it would prove to be specifically distinct from Stanhopea eburnea. I cannot do otherwise than believe now, that Stanhopea eburnea and Stanhopea grandiflora are variable forms of the same species, especially as Professor Lindley doubted whether he would have attached much importance to the distinctions he pointed out, had not the plants been from distinct localities. I more than partake of these doubts, and for these reasons have ventured to give the name of Stanhopea grandiflora to our Brazil plant, and to quote Stanhopea eburnea as a synonyme belonging to it. The specific name grandiflora being the older, is necessarily preferred.

My previous belief that there is no specific distinction between these plants has been strengthened since writing the above, by having seen a specimen in flower in the garden of the Caledonian Horticultural Society, with flowers *much smaller* than any specimen either of Stanhopea grandiflora or Stanhopea eburnea which I have ever seen. The petals, too, are much narrower, proportionally, and are twisted upon their axis, but not revolute at the extremity. It has the attenuated pseudo-bulbs of Stanhopea eburnea, but was received from Mr. Cooper under the name Stanhopea grandiflora, and is very vigorous. Its scape is less elongated than any of my specimens, but certainly not erect. I have to-day measured a *pendulous* scape on my Trinidad plant, and find it very nearly nine inches long. The variations among the plants in the Botanic Garden then, and in that of the Horticultural

Society, extinguish every character except that taken from the form of the pseudo-bulbs, and render it probable that further acquaintance with varieties from Trinidad will show that this also is unsteady.

Partly owing to the giant bulk of these flowers, partly owing to their fantastic forms, and especially to the perfectly modelled slipper represented by the lip of this species, and to the extraordinary manner in which it pushes its hanging flower stalks through the bottom or sides of the suspended pots in which they are cultivated, there are scarcely any of the wondrous Orchidaceæ which excite so much admiration as the genus Stanhopea. It is a pity that their blossoms are of short duration.

INTRODUCTION; WHERE GROWN; CULTURE. Stanhopea grandiflora, or that form called by Professor Lindley Stanhopea eburnea, was originally imported from Rio de Janeiro by Messrs. Loddiges. The plant figured has flowered at intervals during the summer in the Botanic Garden, Edinburgh, having been planted in peat soil, and kept in a warm damp stove. Some of the pots are suspended, others stand upon the tables, and the plants flower very freely, and alike in all positions. The Stanhopeas, from their sending their scapes downwards, should, in planting, be elevated, nine inches at the least, above the rims of the pots. Or they may be planted in wire baskets which will permit the flowers to protrude through the meshes. It should be remembered that they produce their singularly curious flowers the most luxuriantly when the plants are not allowed to become over large. Rough lumps of peat, and broken pots, form the mixture in which Stanhopea grandiflora should be planted. It may be increased by division, and should be kept in the moist stove.

### DERIVATION OF THE NAME.

STANHOPEA, in compliment to the Earl Stanhope.

### SYNONYME.

STANHOPEA GRANDIFLORA. Lindley: Genera et Species of Orch. Plants, 158.

STANHOPEA EBURNEA. Lindley: in Bot. Reg. 1529. Ibid. Genera and Species of Orchid. Plants, 158. Bot. Mag. 3359.

CERATOCHILUS GRANDIFLORUS. Loddiges' Bot. Cab. 1414.

GRAH.

*Ruellia australis.*

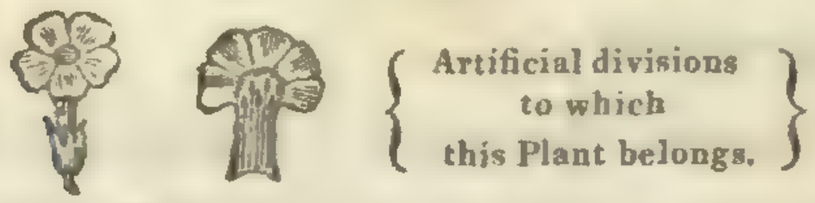
# RUEL'LIA AUSTRA'LIS.

## NEW HOLLAND RUELLIA.

EXOGENÆ, OR DICOTYLEDONEÆ.

NATURAL ORDER, ACANTHACEÆ.

COROLLIFLORÆ, OF DECANDOLLE.




DIDYNAMIA, ANGIOSPERMIA, OF LINNEUS.

No. 175.

GENUS. Ruellia. *Linnæus.* Calyx quinquepartitus, laciniis æqualibus vel subæqualibus. Corolla infundibuliformis, limbi quinquefidi æqualis laciniis patentibus obtusis. Stamina 4, inclusa, didynama; antheræ oblongæ, loculis paralellis, muticis vel basi mucronulatis. Ovarium biloculare, loculis triquadriovulatis. Stylus simplex, apice infra stigma dente auctus. Stigma subulatum. Capsula oblonga, bilocularis, sex adoctosperma, localicide bivalvis, valvis medio septiferis. Semina retinaculis suffulta. Herbæ caulescentes pilosa, foliis oppositis, floribus axillaribus terminalibusque solitariis vel paucis spicatis, bracteolis parvis vel nullis.

SPECIES. Ruellia Australis. (*Cavanilles.*) Caule erecto v. subdiffuso pubescenti-birto, foliis petiolatis ovatis lanceolatisve integerimis vel grosse serratis, floribus axillaribus solitariis ternisve subsessilibus, calycibus ciliatis.

Character of the Genus, Ruellia. Calyx five-cleft, almost or quite to the bottom, the divisions equal or not very unequal. Corolla funnel-shaped, the limb spreading, of five nearly equal round blunt divisions. Stamens four, included in the tube, didynamous; anthers oblong, the cells parallel with or without a point at the base. Ovary two-celled, each cell containing three or four ovules. Style simple, with a small tooth on the upper side below the subulate stigmate. Capsules oblong, two-celled, six or eight-seeded, splitting across the cells into two valves each bearing a portion of the dissepiment along the centre. Seeds supported on retinacula.

Description of the Species, Ruellia Australis. Stem erect or somewhat spreading, much branched, growing to near a foot in height, clothed with soft white spreading hairs. Leaves stalked, varying from oval to lanceolate, entire or with a few coarse teeth, blunt or scarcely sharp, contracted at the base, hairy on both sides, the upper leaves degenerating into bracts. Flowers axillary, sometimes solitary in the axils of the stem leaves, more frequently by the conversion of the leaves into bracts and their being crowded together, forming a short leafy spike at the ends of the branches, or placed three together in the axils, accompanied by a pair of bracts. These Bracts only differ from the other leaves by being smaller and much narrower. Calyx nearly sessile, of five linear or subulate divisions, sometimes almost equal to each other, but more frequently one or two are dis-

tinctly larger. Corolla with a tube, about as long again as the calyx, slightly curved and inflated above the middle, throat scarcely spreading, limb spreading and nearly flat, the divisions very broad and slightly emarginate, of a bright blue, with a slight whitish spot at the base of each fissure and reddish towards the throat. Stamens inserted at about the middle of the tube, filaments short, the upper ones rather the longest and hairy, the lower ones smooth. Capsule oblong, much contracted at the base, rather pointed, usually six-seeded, sometimes only four-seeded.

Popular and Geographical Notice. The genus Ruellia, long a receptacle for a heterogeneous mass of didynamous Acanthaceæ was first reduced to natural limits by Brown, whose ideas on its extent, have been pretty nearly followed by Nees von Esenbeck in his elaborate dissertation on East Indian Acanthaceæ. The present species, although not to be found in that dissertation, would, we have little doubt, be still considered by him, as it was by Brown, as belonging to the true Ruelliæ. It has not, however, been so fortunate as tosits specific name. Having appeared at different times, in different gardens from different sources, it has already been three times published as new; and is, occasionally to be met with under names different from all three. That given above is, as far as we can learn, the oldest, as well as the one adopted by Brown. The genus, as now limited, appears to be confined to the warmer parts of the old world, especially to Asia, the Asiatic Archipelago, and the adjoining warmer portions of Australia. The Ruellia Australis, extends as far as Port Jackson, and from thence, as it would appear, to our East Indian possessions, from whence it is, in the Botanical Magazine, stated to have been received. It does not, however, appear in what particular part of that extended reigon it was found, nor can it be a common plant there, as we do not find it among Dr. Wallich's collections. G. B.

Introduction; Where grown; Culture. Frequently cultivated amongst stove annuals in continental gardens, it has lately appeared in our own collections; said, as above stated, to have been received from East India. In the garden of the Horticultural Society, where our drawing was made, it flowers abundantly, and when once full of flowers, has a very pretty effect, though apt to look weedy, if grown too much to leaf.

### Derivation of the Names.

Ruellia, named after Jean Ruelle, a French botanist of the sixteenth century.

Australis, southern, in allusion to its geographical station.

### Synonymes.

Ruellia Australis. Cavanilles Icones, v. 6, p. 62, t. 586. Brown's Prodromus, p. 479.

Ruellia achyranthifolia. Desfontaihe Catalogus Horti Parisiensis, 3rd edit. p. 391.

Ruellia elegans. Hooker: Botanical Magazine, t. 3389.

Ruellia parviflora of French gardens.

*Cyrtoceras floribundum.*

# CYRTO'CERAS FLORIBUN'DUM.

## ABUNDANT-FLOWERING CYRTOCERAS.

EXOGENÆ OR DICOTYLEDONEÆ.

{ Natural division to which this Plant belongs. }

NATURAL ORDER, ASCLEPIADACEÆ.

COROLLIFLORÆ, OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }

PENTANDRIA, DIGYNIA, OF LINNEUS.

No. 178.

GENUS. CYRTOCERAS. *BENNETT.* COROLLA rotata, quinquefida, reflexa. TUBUS stamineus longe exsertus; corona pentaphylla, foliolis carnosis lanceolatis erectis, basi in cornu recurvatum productis. ANTHERÆ membrana terminatæ; massæ pollinis basi affixæ, conniventes, compressæ. STIGMATIS discus depressus, papilla acutiuscula. STYLI elongati. FRUTEX. FOLIA opposita membranacea. UMBELLÆ interpetiolares vel terminales, pedunculatæ, multifloræ. FLORES majusculi, annulo corollæ faucis barbato. *HORSFIELD:* Plantæ Javanicæ, p. 90.

SPECIES. CYRTOCERAS FLORIBUNDUM. (*BENNETT.*) FOLIIS subvenosis ovalibus acutis vel acuminatis membranaceis glabris corolla intus barbata.

CHARACTER OF THE GENUS, CYRTOCERAS. COROLLA rotate, five-cleft, reflexed. TUBE bearing the stamens greatly protruding; crown composed of five folioles, which are fleshy, lanceolate, erect, and prolonged at the base into a curved horn. ANTHERS terminated by a membrane. POLLEN MASSES attached at the base, connivent, compressed. DISK of the stigma depressed, the papilla somewhat acute. STYLES elongated.

DESCRIPTION OF THE SPECIES, CYRTOCERAS FLORIBUNDUM. An UNDER-SHRUB, having the stem round and smooth. LEAVES opposite, smooth, of a somewhat leathery or membranous consistence, oval, acute, veined, deep green on the upper, light green on the under surface. INFLORESCENCE axillary or terminal, stalked, pendulous; pedicels smooth; the umbels surrounded by an involucre of small, scale-like, downy bracts. FLOWERS whitish; corolla rotate, reflexed, pubescent on the inner surface, tomentose at the base; segments linear, acuminate, yellowish towards the tips. The corona bearing the stamens, very smooth; the folioles acuminated at both ends. ANTHERS oblong, obtuse, terminated by a short two-toothed membrane. POLLEN MASSES erect; the gland simple, and not furrowed. DISK of the stigma depressed.

Popular and Geographical Notice. This very interesting plant would appear to be native of several of the islands of the Indian Archipelago, having been found in Java, in the eastern part of which it was found by Dr. Horsfield, at no great distance from the sea-shore, (where it bears the name of Kappal) and also in the island of Lucon, where it was discovered by Father Camel, and since by Mr. Cuming. It has been made the basis of a new genus by Mr. Bennett, who deemed it preferable to take this step to erecting an additional section in the genus Hoya, to which it is akin. Independently of the points of structure in the flower, by which it differs from that genus, it presents certain peculiarities of habit which serve further to distinguish it. It does not send out roots from its stem, as the species of Hoya do, nor is the flower possessed of that property of secreting a saccharine juice, forming a limpid coating to the stigma, as may be observed in the Hoya carnosa and others.

Introduction; Where grown; Culture. Sent by Mr. Cuming from Manilla, in 1837, to Messrs. Loddiges, in whose stove it flowered for the first time in 1838, and again last year, when our drawing was made. Dr. Lindley says, "It seems to be nearly parasitical in its habits. Messrs. Loddiges grow it in the Orchidaceous house, on the block of wood upon which it was imported: this is placed in a pot, and surrounded by earth. It will grow in any light soil, the chief thing in its cultivation being a warm and moist atmosphere." No means have yet succeeded in multiplying it.

### Derivation of the Names.

Cyrtoceras from κυρτος kurtos, curved, and κερας keras, a horn, from the curved state of the horn of the segments of the crown.

### Synonyme.

Cyrtoceras reflexum. Bennett, in Horsfield's Plantæ Javanicæ rariores, p. 90, t. 21.

Hoya coriacea. Lindley: in Botanical Register, 1839, t. 18. a mistake, corrected in Miscell. 1840, p. 7.

*Acacia dentifera*

# ACA'CIA DENTIF'ERA.

## TOOTHED ACACIA.

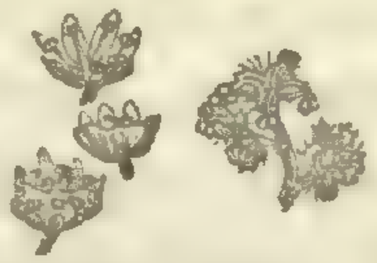
EXOGENÆ. OR DICOTYLEDONEÆ.

{ Natural division to which this Plant belongs. }

NATURAL ORDER, LEGUMINOSÆ.

CALYCIFLORÆ, OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }



POLYGAMIA, MONŒCIA, OF LINNEUS.

No. 179.

GENUS. Acacia. *Willdenow*. Flores hermaphroditi vel abortu sæpius polygami. Calyx quadri-vel quinque-fidus. Corolla petalis quatuor vel quinque liberis vel plus minusve coalitis, æstivatione valvata. Stamina indefinita, numerosa, libera. Antheræ biloculares, polline granuloso. Ovarium pluriovulatum. Stylus filiformis, stigmate terminali. Legumen lineare vel oblongum, membranaceum coriaceum vel lignosum, pulpo destitutum, bivalvatim dehiscens. Arbores fruticesve. Folia bipinnata vel petiolo phyllodineo simplicia. Flores in capitula vel spicas disposita, sessilia, sæpissime lutea.

SPECIES. Acacia dentifera. Ramis teretiusculis vel subangulato-striatis glabris, stipulis junioribus setaceis demum indurato-persistentibus incrassatis dentiformibus, foliis phyllodineis lineari-elongatis subincurvis acutis mucrone recto eglandulosis junioribus ciliatis adultis glabris, florum capitulis globosis, pedunculis axillaribus monocephalis solitariis binisve vel in racemis axillaribus aphyllis dispositis, calyce 5-partito laciniis subulatis apicem versus subdilatatis, corolla 5-fida.

Character of the Genus, Acacia. Flowers hermaphrodite, or more frequently polygamous. Calyx four or five cleft. Petals four or five, either entirely free or more or less combined into a monopetalous corolla, valvate in the bud. Stamens numerous, indefinite, free. Anthers two-celled, the pollen consisting of a number of small grains. Ovary with several ovules. Style filiform, with a terminal stigma. Pod linear or oblong, membranous, leathery, or woody, without any pulp, opening in two valves.

Description of the Species, Acacia dentifera. Stem erect, shrubby. Branches smooth, nearly cylindrical, or angled by the decurrent stipules. Stipules, when young, fine and thread-like, nearly two lines long, as they break off their base remains, thickening and hardening in the form of a double tooth at the base of the leaves. Leaves phyllodineous, that is, reduced to phyllodia or leaf-like expanded petioles, vertical, ascending, three to five inches long, linear, about two lines in their greatest breadth, ending in a straight point, somewhat curved in their length and slightly narrowed at the base, with one prominent longitudinal nerve, no lateral glands, the lateral

veins scarcely perceptible, slightly ciliated when young, at length perfectly smooth. HEADS OF FLOWERS globose, borne on peduncles about half an inch long, which are sometimes solitary, or two together in each axil, sometimes arranged in loose axillary racemes, shorter than the leaves, each head about three lines in diameter, bearing nearly thirty yellow flowers. BRACTS at the base of the peduncles very small, bracteola under the flowers none. CALYX divided almost to the base into five awn-shaped white divisions, slightly dilated, and yellowish at the top. PETALS five, cohering to the middle, in a narrow bell-shaped corolla, white at the base, yellow at the top. STAMENS very numerous (above sixty) more than twice the length of the petals; the filaments flexuose, smooth. POLLEN GRAINS numerous, very small, the surface, as in most Acacias, beautifully divided into ten compartments. OVARY oblong, nearly smooth, with a long flexuose style, laterally attached near the apex of the ovary. OVULES about six. POD unknown.

POPULAR AND GEOGRAPHICAL NOTICE. Of the numerous groups of plants now called Mimoseæ, Linneus knew scarcely more than fifty species, which, with the exception of Prosopis spicigera and Adenanthera pavonina, he considered as forming but one genus, under the name of Mimosa; and his example continued to be followed until Willdenow came to this part of his Species Plantarum, when finding the number of species inconveniently large, already above two hundred, he, in 1807, limited the genus Mimosa, as Tournefort had done, to the species with articulated pods; adopted Inga, of Plumier, for those which have monadelphous stamens and a pulpy pod; established two new small genera, Desmanthus and Schranckia; and collected all the rest under Tournefort's name of Acacia. Eighteen years later Decandolle published the second volume of his Prodromus; the number of Mimoseæ he described was very nearly five hundred, which he distributed amongst Willdenow's genera, adding only four small ones, Entada, Gagnebina, Darlingtonia, and Lagonychium. At this moment, after another lapse of fifteen years, the number of Mimoseæ of which specimens exist in herbaria, amounts, probably, to nearly three times the number known to Decandolle in 1825. The several small genera of Willdenow, Decandolle, and others, have partaken but little of this increase; the true Mimosas, with articulate pods, (as in the Sensitive plant) are now very numerous, it is true, but the genus is well defined, and will probably remain undivided. Inga, however, which was founded on two characters, which by no means correspond

to each other in extent, and especially Acacia, which is made to include every Mimoseous plant which will not go into the other genera, are become numerous, unwieldly, ill-defined, and comparatively unnatural assemblages of plants, which it is essential to divide, in order to extricate them from the chaos in which they are involved.

This has been partially accomplished by the separation of several new genera proposed by Brown, Arnott, Guillemin, and Martius; and the latter botanist has indicated what should be considered as the true genus Inga, but no one appears to have attempted to assign any definite characters to Acacia, which remains a confused mass of species which cannot be, or have not been, referred to any of the other known Mimoseæ. Having myself had occasion very lately to describe those collected by M. Schomburgk, in British Guiana, I found it necessary to make an attempt at reducing the whole tribe of Mimoseæ to some kind of arrangement, and I there proposed three subtribes to contain the twenty-eight genera now published; and, notwithstanding this great multiplication of genera, the average number of species in each will probably not fall far short of the total number contained in Linneus's Mimosa, one of the most numerous in species known to him, and about five times his usual average.

In defining the true genus Acacia another difficulty, however, presents itself—For which group should that name be retained? In following strictly the rules of nomenclature, the right might be claimed by that set of species which would include the gum Acacias of Africa; but on the other hand, these trees, most, if not all of them, are congeners to the Acacia Farnesiana which had already been separated and well defined by Arnott, under the name of Vachellia, and since then by Gasparini, under that of Farnesia; and the more numerous set—that which includes all the Australian species, and many others both from the new and old continents, corresponds better with Willdenow's generic character, and has, as yet, received no other name. In retaining, therefore, the name of Acacia to this set in preference to the other, above two hundred fewer names are changed, and the rules of nomenclature cannot be said to be absolutely violated.

Amongst the numerous Australian species of Acacia, as thus limited and characterized at the head of this article, a considerable proportion have their leaves reduced to that state which are now usually called *phyllodia.* The first year from seed, indeed, more or less of the leaves are bipinnate, as in other Mimoseæ, but in the subsequent ones the folioles are never developed, but the petiole or main stalk is

expanded vertically in the form of a simple rigid leaf, with the margins more or less thickened, and upon the upper edge may often be seen a gland, corresponding to that which is so frequent on the petiole of other Mimoseæ. This peculiar phyllodineous form of the leaf is almost confined to Australia, but has also been observed on many of the leaves of Acacia heterophylla from the Mauritius, and also on a new species of Mimosa gathered by Dr. Pohl in the interior of Brazil.

The group of Acacias collected together by this character do not present, as far as hitherto observed, any peculiar modification in the flowers or fruit, and do not therefore constitute a good botanical section; yet this conformation is so remarkable, and so easily observed, that it forms the most convenient primary division of the genus. The next subdivision has been derived from the inflorescence, the heads of flowers being sometimes elongated in the form of a spike, sometimes nearly globose; and the globe-flowered species have again been distributed into two groups, according as the peduncles bear but one head, or a raceme of several heads. This latter character is not, however, so certain; many species, and amongst others the one now figured, have some of the peduncles simple, others bearing a raceme of several heads. When the pod is better known, it is probable that much more natural subdivisions may be framed from the modifications of that organ, in conjunction with those of the flower, the stipules, and perhaps the glands of the leaves.

The new species now figured is a native of Swan River. It is nearly allied to the Acacia saligna of Labillardiere, but the leaves are much narrower, and the form of the calyx is very peculiar. The cultivated specimens are hitherto rather poor of flower, but, judging from the wild ones, they are likely to become as ornamental as the generality of the Australian species. G. B.

Introduction; Where grown; Culture. First found in the colony of Swan River, by Mr. James Drummond; it was raised in the garden of Messrs. Rollisson of Tooting, from seeds transmitted by that collector. Our drawing was made from a specimen which flowered in that establishment for the first time this spring, 1840. It has been treated as other New Holland species.

### Derivation of the Names.

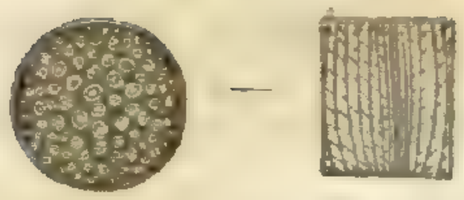
Acacia, so named in the belief that the Acacia of the ancients is a species of this genus. Dentifera, tooth-bearing, in allusion to the tooth-like remains of the stipules.

*Aerides odoratum.*

# ÆRI'DES ODORA'TUM.

## SWEET-SCENTED AIR-PLANT.

ENDOGENÆ, OR MONOCOTYLEDONEÆ.



{ Natural division to which this Plant belongs. }

NATURAL ORDER, ORCHIDACEÆ.

GYNANDROSÆ, OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }

GYNANDRIA, MONANDRIA, OF LINNEUS.

No. 180.

GENUS. ÆRIDES. *LOUREIRO*. PERIANTHIUM patens vel clausum. SEPALA lateralia, basi sæpius obliqua cum ungue producto columnæ connata. LABELLUM cum ungue columnæ articulatum, saccatum vel calcaratum, trilobum; lobis lateralibus nanis; limbo cucullato, aut subulato, aut abbreviato-tumido, aut subfornicato. COLUMNA in ovarium recumbens, brevis, aptera. ANTHERA bilocularis. POLLINIA 2, postice sulcata; caudicula lata vel filiformi, glandula peltata subrotunda. HERBÆ epiphytæ caulescentes. CAULES subsimplices, radicantes. FOLIA disticha, coriacea, aut subcarnosa. FLORES racemosi, vel spicati.

SPECIES. ÆRIDES ODORATUM (*LOUREIRO*) foliis linearibus, undulatis, medio recurvis, apice obtusis obliquis; racemis nutantibus, multifloris, labelli cucullati infundibularis laciniis lateralibus erectis cuneatis rotundatis, intermedia lineare inflexa, calcare conico incurvo.

CHARACTER OF THE GENUS, AERIDES. PERIANTH spreading or closed. LATERAL SEPALS generally, by their oblique base, connate with the elongated unguis of the column. LABELLUM articulated with this part, saccate or spurred, three-lobed, the lateral lobes being small, limb cucullate, subulate, short and tumid, or somewhat arched. COLUMN reclining upon the ovarium, short, without wings. ANTHER bilocular. POLLEN MASSES two, furrowed behind, caudicle broad or filiform, gland peltate, subrotund.

DESCRIPTION OF THE SPECIES, ÆRIDES ODORATUM. STEM branched, (simple in the specimen described, which is only four inches high to the base of the upper leaf) compressed, leafy, sending forth many strong, rigid, cylindrical, branched, glabrous roots. LEAVES 9 inches long, nearly $1\frac{1}{2}$ broad, linear, distichous, coriaceous, pendulous in their upper half, slightly reflected in their edges, obliquely truncated, middle rib strong and sharply prominent behind, lateral ribs inconspicuous. SPIKES axillary, cernuous, many-flowered. BRACTS ovate, rigid, persisting. FLOWERS extremely handsome, agreeably perfumed, white, tipped with pale reddish-lilac, spreading all round the rachis. SEPALS spreading wide, the two lowest the largest, ovate, reflexed in their sides, the upper obovate, scarcely reflected in the sides. PETALS

equal in length to the sepals, spreading upon the same plain with the sepals, and intermediate in form and situation between them. LABELLUM larger than the perianth, funnel-shaped; the spur pale greenish-brown, curved forwards and upwards; lateral lobes large, compressed laterally, erect, rounded at the apex, wedge-shaped downwards, closed upon the lateral sepals and column; central lobe winged at its base, linear in its upper portion, and there inflated so as completely to fill the space between the lateral lobes, and coming into contact with the anther to hide the whole of the interior of the flower. COLUMN in its free portion very short, and rounded behind, but much elongated at its base, where it is broadly channelled in front, connate with the petals and sepals, and articulated with the lip. ANTHER-CASE blunt at the apex and slightly emarginate, attenuated at its base. POLLEN-MASSES two, waxy, rounded, each bifid; the posterior lobe the smaller, attached to a thin transparent and colourless sub-rhomboid gland, by a linear stalk of the same appearance as the gland, and twice as long as it. CLINANDRIUM attenuated into a beak, dependent in the centre of the flower, and placed in front of the rounded excavation, in which is the stigmatic surface.

POPULAR AND GEOGRAPHICAL NOTICE. This genus, of which there are many species, is entirely oriental, being diffused over the archipelago and the continent of India, and China. The present species has a particularly wide range, being found in China, Cochin-China, Martaban, and Bengal.

INTRODUCTION; WHERE GROWN; CULTURE. We received this plant at the Royal Botanic Garden, Edinburgh, in the end of the year 1838, from Mr. Cooper. It seems to flower very freely, if we may judge by the little plant which has flowered so beautifully with us in July; having upon it three withered flower-stalks, the product of former years, and another flower-stalk is now forming in the axil of the leaf immediately above that from which the present spike hangs. There are, no doubt, more fantastic forms among the Orchidaceæ, than the Balsam-like flowers of this plant possess, but I am not sure that there are any where the harmony of colouring, the perfume, and the symmetry of form, which produce a more pleasing impression.

It has been kept with us in a damp pit, and grows in lumps of unprepared peat. GRAH.

SYNONYMES.

ÆRIDES ODORATA. Loureiro: Fl. Cochin, 642. Willdenow: Spec. Pl. 4, 131. Persoon, Synops. 2, 522. Hort. Kew. 5, 212. Sprengel: Syst. Veget. 3, 719. Lindley: Gen. et. Spec. Orchid. 239.

ÆRIDES CORNUTUM. Lindley: Bot. Reg. 1485. Roxburgh: Fl. Indic. 3, 472.

*Aquilegia fragrans.*

# AQUILE'GIA FRA'GRANS.

## FRAGRANT COLUMBINE.

EXOGENÆ, OR DICOTYLEDONEÆ.

{ Natural division to which this plant belongs. }

NATURAL ORDER, RANUNCULACEÆ.

THALAMIFLORÆ, OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }

POLYANDRIA, PENTAGYNIA, OF LINNEUS.

No. 181.

GENUS. Aquilegia. *Linnæus.* Calyx quinquesepalus, deciduus, colorato-petaloideus. Petala quinque, superne hiantia, bilabiata, labio exteriore magno plano, interiore minimo, deorsum producta in calcaria totidem cava, apice callosa, inter sepala exserta. Ovaria plura, sæpius quinque. Capsulæ totidem, erectæ, polyspermæ, stylis acuminatæ. Herbæ perennes, erectæ. Folia radicalia aut inferiora longe petiolata, petiolo trifido biternatim secta, segmentis trifidis dentatis, superiora in lobos lineares partita. Flores terminales sæpius cernui.

SPECIES. Aquilegia fragrans. Caule folioso plurifloro superne foliis superioribus ovariis-que pubescentibus subglandulosis, foliorum inferiorum segmentis ultra medium trifidis, floribus amplis vix puberulis, sepalis ovato-lanceolatis acutis, petalorum calcaribus incurvo-hamatis, lamina truncata duplo brevioribus, staminibus lamina parum brevioribus.

Character of the Genus, Aquilegia. Calyx of five sepals, deciduous, coloured, and petal-like. Petals five, open at the top, two-lipped, the outer lip large and flat, the inner very small, produced downwards into as many hollow spurs, protruding between the sepals and terminating in a straight or curved callous end. Ovaries several, usually five. Capsules as many, erect, many-seeded, pointed by the remains of the styles.

Description of the Species, Aquilegia fragrans. Stem erect, a foot or a foot and a half high, leafy, smooth or nearly so below, covered in the upper part with short hairs, which are thicker and somewhat glandular under the flowers, branched at the top. Leaves of the lower part of the stem borne upon a long stalk, shortly sheathing at the base, and twice divided above the middle into three branches, each of which bears three segments; segments sessile or slightly connate, divided to the middle, or deeper, into three obovate or wedge-shaped lobes, which are deeply cut into two or three entire blunt rounded teeth or crenæ; the general form of each segment is broadly obovate or rounded, they are of a glaucous green underneath

and smooth or bearing a few short scattered hairs on the underside; the upper leaves have shorter stalks, are less divided, and more hairy; and the uppermost of all are reduced to three linear lanceolate sessile lobes. FLOWERS few, each terminating a branch, sweet-scented, and perhaps the largest in the genus, being rather larger than those of Aquilegia Alpina and Sternbergi. SEPALS broadly lanceolate, of a yellowish white, tinged with a slight shade of blue on the margin and with green at the points, longer than the petals. PETALS of a yellowish white, the lamina very broad and truncate, the spur not half the length of the lamina, thick, very much curved or hooked, of a slight bluish tint, having a few hairs on the ouside. STAMENS very numerous, rather shorter than the petals, the inner sterile membranous ones rather shorter than the styles. OVARIES four, five, or six, hairy and glandular.

POPULAR AND GEOGRAPHICAL NOTICE. This is a most valuable addition to a well known ornamental European genus, furnished by the mountainous chains of the North of India, a country analagous in many of its vegetable productions to the alpine districts of the south of Europe. With all the singularity of form and elegant growth of our own Columbines, this species presents a colour of flower very unusual in the genus, and exhales a fragrance so much a disideratum in those hitherto cultivated. In its botanical affinities the plant comes nearest to Aquilegia pubiflora of Wallich, but the flower is twice as large, and the spurs of the petals very much more hooked, besides which pubiflora appears to have the flowers of a rusty purple. G. B.

INTRODUCTION; WHERE GROWN; CULTURE. The Aquilegia fragrans is one of a number of North Indian plants raised by the Horticultural Society of London, from seeds presented by the Honourable East India Company. It has only flowered this spring (1840) for the first time, and has been hitherto kept in a conservatory or under a frame, but there is every reason to hope that it will prove as hardy as its congeners already in cultivation.

### DERIVATION OF THE NAME.

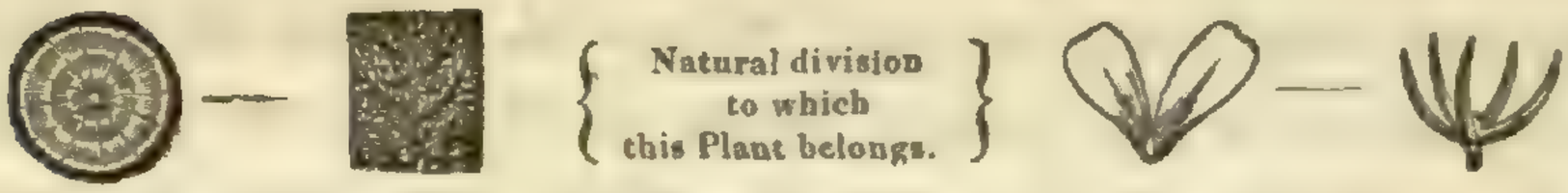
AQUILEGIA, said to be derived from aquila an eagle, on account of the general appearance to a bird, presented by its two contiguous sepals. The name Columbine, from Columba, a dove, is given from the same circumstance. FRAGRANS, fragrant.

*Statice puberula*

# STAT'ICE PUBER'ULA.

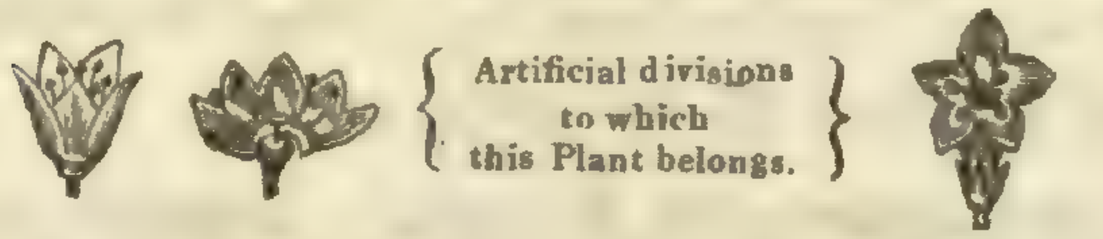
## DOWNY STATICE.

EXOGENÆ OR DICOTYLEDONEÆ.




NATURAL ORDER, PLUMBAGINACEÆ.

MONOCHLAMYDEÆ, OF DECANDOLLE.




PENTANDRIA, PENTAGYNIA, OF LINNEUS.

No. 182.

GENUS. Statice. *Linnæus.* Flores distincti. Calyx infundibuliformis, limbo quinquedentato quinqueplicato margine scarioso. Corolla pentapetala vel quinque-partita. Stamina quinque, imis petalorum unguibus inserta. Ovarium uniloculare. Ovulum unicum, e placenta filiformi libera pendulum. Styli terminales, quinque, apice intus stigmatofisi. Utriculus membranaceus, monospermus, calyce inclusus, demum a basi multifido-solutus, calyptræformis. Semen inversum. Embryo orthotropus. Albumen parvum. Herbæ suffruticesve, foliis radicalibus, scapis ramosis, spicis secundis.

SPECIES. Statice puberula, (*Webb*) Foliis petiolatis obovatis oblongisve integerrimis pubescentibus, scapo angulato paniculato pubescente, bracteis obtusis ciliatis convolutis calycis tubo sublongioribus, calycis fructiferi limbo membranaceo colorato patente orbiculato subcrenato tubo æquilongo.

Character of the Genus, Statice. Flowers distinct, not united in globose heads. Calyx funnel-shaped; the limb five-toothed, with five folds, scariose at the edge. Corolla deeply five-cleft, or of five petals. Stamens five, inserted in the claws of the petals at their base. Ovary one-celled. Ovule single, hanging from a free filiform placenta. Styles five, terminal, bearing stigmas at their apex, inside. Fruit a membranous utricle, one-seeded, enclosed in the calyx, at length detaching itself and splitting at the base. Seed inverted. Embryo orthotropous, in a small quantity of albumen.

Description of the Species, Statice puberula. Root perennial. Leaves all radical, spreading or somewhat erect, stalked, ovate, obovate, or oblong, blunt or terminating in a small point, narrowed at the base, one to two inches long, green, quite entire, bearing on both sides, and especially on the edge, a number of short hairs. Scape angular, almost winged, bearing a very short down, erect, about six inches high, and dichotomously divided into a many-flowered panicle, having almost the form of a corymb. At each ramification are two small brown, broadly ovate, pointed bracts or scales. Bracts enclosing the flowers, oblong, blunt, brown, pubes-

cent, membranous at the edges, and rather longer than the tube of the calyx. FLOWERS sessile, two or three together at the extremities of the branches of the panicle. CALYX funnel-shaped; the tube oblong, two lines long, angular, pubescent, reddish or brown; the limb scariose, of a rich purple, folded at first, afterwards spreading, orbicular, slightly crenate, smooth, about two lines in diameter. COROLLA divided nearly to the base into five linear-oblong, retuse, white petals, of the length of the flowering calyx.

POPULAR AND GEOGRAPHICAL NOTICE. Linneus comprehended under the name of Statice the *Thrifts* which have the flowers in close heads, as well as others which, like the present species, have the flowers distinct and spicate, or paniculate. Necker, followed by Brown, proposed to separate them, reserving the name of Statice to the Thrifts, and giving to the remainder that of Taxanthemum; but Wildenow's nomenclature is more generally adopted, the Thrifts being designated by the old name Armeria, and Linneus's name of Statice adopted for Necker's Taxanthema. This is the most numerous of the two, and a very handsome genus, chiefly confined to maritime stations in almost every part of the world; but the greater number of species are from the south of Europe and the north of Africa. The present one, with many others of the handsomest among them, is a native of the Canary Islands. G. B.

INTRODUCTION; WHERE GROWN; CULTURE. The Statice puberula was introduced some years since, by means of seeds collected by P. B. Webb, Esq., and cultivated in his garden at Milford House, near Godalming. Our drawing was made in June, from a plant which was obligingly communicated from the Birmingham Horticultural Society's garden. It requires protection in a greenhouse or frame, during winter, but flowers in the greatest perfection when planted out, during the summer, in the open borders; where it becomes very showy, from the bright purple of its calyx. It may be propagated by division, cuttings, or seeds. A plant is sometimes met with in the nurseries under the name Statice foliosa, which seems to be identical with the present species.

### DERIVATION OF THE NAMES.

STATICE, from the Greek *σατικη*, a herb so called from its astringency, and to which modern botanists have referred our Statice. PUBERULA, slightly downy.

### SYNONYME.

STATICE PUBERULA. P. B. Webb: Botanical Register, t. 1450.

*Physolobium carinatum.*

Miss Withers del

Newman sculp

# PHYSOLO'BIUM CARINA'TUM.

## LARGE-KEELED PHYSOLOBIUM.

EXOGENÆ. OR DICOTYLEDONEÆ.

{ Natural division to which this Plant belongs. }

NATURAL ORDER, LEGUMINOSÆ.

CALYCIFLORÆ, OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }

DIADELPHIA, DECANDRIA, OF LINNEUS.

No. 183.

GENUS. PHYSOLOBIUM. *BENTHAM.* CALYX campanulatus, bilabiatim quinquedentatus. COROLLÆ vexillum late orbiculatum, patens, basi subcallosum, exappendiculatum, alis longius. ALÆ carinæ ultra medium adhærentes; CARINA *incurva, obtusa, alis brevior vel subæqualis.* STAMINA distincte diadelpha, filamento vexillari recto inarticulato. ANTHERÆ uniformes. VAGINA disci nulla. OVARIUM pluriovulatum. STYLUS brevis, adscendens. STIGMA capitatum. LEGUMEN oblongum, turgidum, intus isthmis cellulosis demum evanidis submultiloculare. SEMINA strophiolata. HERBÆ vel frutices prostrati vel volubiles. FOLIA pinnatim trifoliolata stipellata. PEDUNCULI axillares, laxe pauciflori, subdichotomi. BRACTEÆ et stipulæ latæ. COROLLÆ coccinéæ.

SPECIES. PHYSOLOBIUM CARINATUM. (*BENTHAM.*) Foliolis obovatis orbiculatisve retusis mucronulatis margine subundulatis subtus ramulisque pubescentibus, stipulis bracteisque lato-ovatis acuminatis subconnatis, carina apice geniculata obtusissima.

CHARACTER OF THE GENUS, PHYSOLOBIUM. CALYX bell-shaped, two-lipped, five-toothed. COROLLA: STANDARD broadly orbicular, spreading, without appendages at the base, longer than the wings; WINGS adhering to the keel beyond the middle; KEEL curved, blunt, shorter than, or nearly equal to, the wings. STAMENS distinctly diadelphous, the upper free, filament straight and without any joint. ANTHERS all alike. No sheath on the disk. OVARY with several ovules. STYLE short, ascending. STIGMA capitate. POD oblong, swollen, imperfectly divided into several cells by a cellular substance, which at length disappears. SEEDS strophiolate.

DESCRIPTION OF THE SPECIES, PHYSOLOBIUM CARINATUM. STEM slender, climbing, but not spreading to any great length, bearing as well as the peduncles, petioles, and underside of the leaflets, a few soft white spreading hairs. LEAF-STALKS slender, two to three inches long. LEAFLETS three, with short partial stalks, the terminal one broadly obovate, or somewhat rhomboidal, the lateral ones opposite, inserted at some distance from the terminal one, nearly orbicular, all of them very

blunt, and bearing a minute point at the end of the mid-rib, green on both sides, smooth on the upper side, about half an inch diameter. STIPULES broadly ovate, or cordate, pointed, often slightly connate, of the same consistence and hairiness as the leaflets. PEDUNCLES axillary, few-flowered, the common stalk very short and dichotomously divided into two, three, or four long slender pedicels. BRACTS at the ramifications of the peduncle, and in the middle of the pedicels, opposite, leafy like the stipules, but smaller. CALYX hairy, deeply divided into four lobes, of which the upper one is broad and two-cleft, the lower ones narrow, pointed, and entire. COROLLA about the size of that of Zichya coccinea, smooth. STANDARD of a rich crimson, with a yellow spot in the centre, at the base of which are two slightly prominent callosities. WINGS and KEEL somewhat lighter coloured, the keel full as long as the wings, very broad, and suddenly curved at the top, very blunt at the end. POD from half an inch to three quarters long, much swollen, hairy.

POPULAR AND GEOGRAPHICAL NOTICE. The genera Hardenbergia and Zichya, lately separated from Kennedya, and the latter genus, as now limited, have already been illustrated in this work, (see Botanist, v. 2, No. 84.) The plant, now figured is one of a fourth genus allied to them, but readily distinguished by habit as well as by botanical character. The colour and form of its flower are those of a Zichya, but the peduncles are few-flowered and loosely dichotomous, not umbellate, and the pod is inflated, as in Crotalaria or Baptisia. The inflorescence is that of a true Kennedya, but the form of the flower, as well as the pod, are very different. There are three or four species known, all from the south-west coast of Australia. G. B.

INTRODUCTION; WHERE GROWN; CULTURE. This species was first gathered by Baron Charles von Hügel, on the coast of King George's Sound, and it is believed, was raised by him, at his establishment, at Hietzing, near Vienna, from seeds he had brought home. It was again received from Port Augusta by the Horticultural Society, and flowered this spring for the first time. It appears to grow freely under the usual treatment of Australian Papilionaceæ, and sets its seeds more abundantly than most species of the Kennedya tribe. Our drawing was made at the Society's garden.

### DERIVATION OF THE NAMES.

PHYSOLOBIUM, from *φυσαω*, to swell; and *λοβος*, a pod, in reference to the inflated pod. CARINATUM from the large keel of the species.

### SYNONYME.

PHYSOLOBIUM CARINATUM. Bentham: in Hügel's Enumeratio, p. 39.

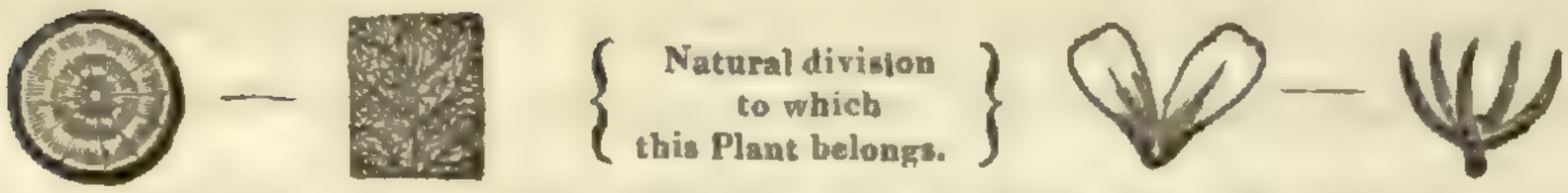
W. Withers del.

Thornton Lodge

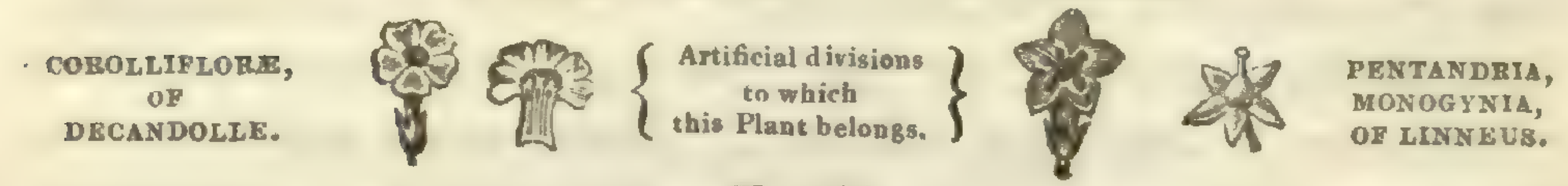
Nevett sculp

# PHARBI'TIS LEA'RII.

## LEAR'S PHARBITIS.




NATURAL ORDER, CONVOLVULACEÆ.




No. 184.

GENUS. PHARBITIS. *CHOISY.* CALYX quinquesepalus. COROLLA campanulata vel infundibuliformis, limbo patente quinqueplicato. STAMINA quinque, corollæ tubo inserta, inclusa, filamentis basi dilatatis. OVARIUM tri-quadriloculare, loculis biovulatis. STYLUS simplex. STIGMA capitato-granulatum. CAPSULA tri-quadrilocularis, tri-quadrivalvis. SEMINA sex vel octo erecta. EMBRYONIS curvati cotyledones corrugatæ. HERBÆ volubiles, foliis cordatis integris vel lobatis, pedunculis axillaribus uni- vel multifloris.

SPECIES. PHARBITIS LEARII. FOLIIS amplis cordatis integris trilobisve supra viridibus minute puberulis vel demum glabratis subtus cano-sericeis, pedunculis petiolum superantibus apice multifloris, bracteis exterioribus foliaceis, sepalis lineari-lanceolatis acutissimis inæqualibus basi pilosis.

CHARACTER OF THE GENUS, PHARBITIS. CALYX of five sepals, COROLLA bell-shaped or funnel-shaped, the limb spreading, with five folds. STAMENS five, inserted in the tube of the corolla and enclosed within it, the filaments dilated at the base. OVARY three or four-celled, each cell with two ovules. STYLE simple. STIGMA capitate, granulate. CAPSULE three or four-celled, three or four-valved. SEEDS six or eight, erect. EMBRYO curved with corrugate cotyledons.

DESCRIPTION OF THE SPECIES, PHARBITIS LEARII. STEM twining to a great height, much branched, clothed with a short somewhat silky down, composed of appressed reflexed hairs. LEAVES alternate, stalked, broadly heart-shaped, with a short point, entire or deeply three-lobed, three to five inches long, and nearly as broad, silky on both sides when young, but when full grown the upper side appears smooth, though, in fact, there is almost always a thinly scattered appressed down, the under side remains covered with a close appressed whitish silky down. PEDUNCLES axillary, four or five inches long, with a short silky down, bearing at the top a loose head of sixteen or twenty large purple flowers. BRACTS leaf-like, the outer ones ovate, or heart-shaped, the inner ones linear lanceolate. PEDICELS much

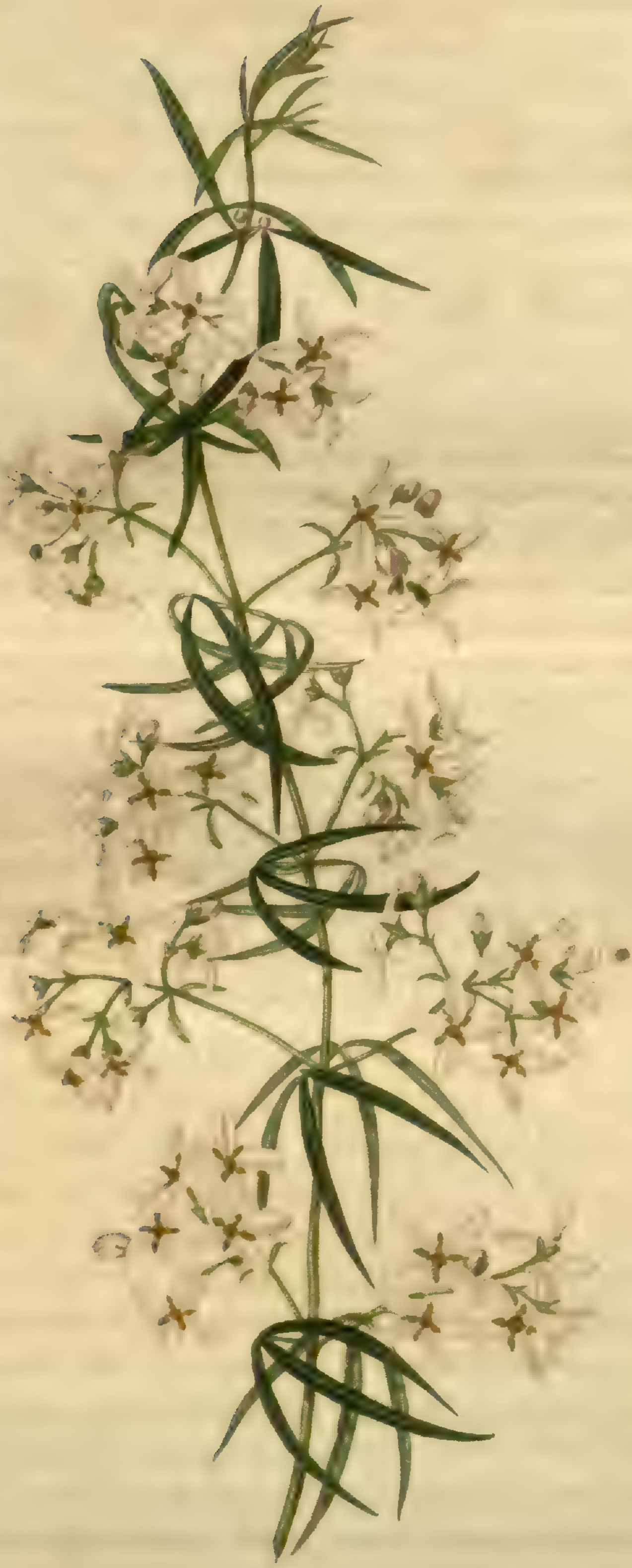
shorter than the calyx. SEPALS unequal, broadly lanceolate at the base, ending gradually in a long point, clothed on the outside towards the base with long soft hairs, nearly smooth towards the point, the outer longest, sepals about three quarters of an inch, the innermost little more than half an inch long. COROLLA above two inches long, narrow, bell-shaped, or broadly funnel-shaped, smooth, the tube ample, the limb spreading, folded, five-angled. STAMENS unequal in length, inserted near the base of the tube, filaments dilated at their insertion, furnished with long hairs immediately above, smooth and filiform in the upper half. Ovary three-celled, surrounded by a cup-shaped disk.

POPULAR AND GEOGRAPHICAL NOTICE. The plant long since known to gardeners under the name of Convolvulus major, and to botanists as Ipomœa purpurea, together with Ipomœa nil, and some other species, had long since been observed to differ, in many respects, both from Convolvulus and Ipomœa, and Choisy, in the revision of the order (which will be further noticed under Jacquemontia pentantha) established them as a genus, one of the easiest defined in its botanical character, being the only one with more than four ovules to the ovary, or seeds to the capsule. It may also be known by the habit, and contains so many ornamental species, that Choisy gave a name which alludes to richness of colour. This name is fully justified by the new species we have now to add, one of the few inmates of the tropical regions of the older hemisphere, the greater number of species belonging to tropical America. G. B.

INTRODUCTION; WHERE GROWN; CULTURE. This beautiful species was discovered in Ceylon by M. Lear, collector to Mr. Knight, of the King's Road, and by him sent over to that rich establishment. It was there first raised in 1839, and named Ipomœa Learii, after its discoverer, a name which we have with pleasure adopted in transferring it to its right genus. The specimen from which our drawing was made, begun with bearing twenty blossoms, and at the time it was drawn, there were two hundred and thirty out at once. Mr. Williams's method of taking cuttings with a leaf and portion of the old stem, will be applicable to this plant, See Vol. 1, No. 31.

DERIVATION OF THE NAMES.

PHARBITIS from $\phi\alpha\rho\beta\eta$, colour. LEARII in honour of its discoverer, M. Lear.



Mrs Watson del

Cerura borregata

# ZIE'RIA LÆVIGA'TA.

## SMOOTH-LEAVED ZIERIA.

EXOGENÆ, OR DICOTYLEDONEÆ.

{ Natural division to which this plant belongs. }

### NATURAL ORDER, RUTACEÆ.

THALAMIFLORÆ, OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }

TETRANDRIA, MONOGYNIA, OF LINNEUS.

No. 185.

GENUS. ZIERIA. *SMITH.* CALYX quadrifidus. PETALA quatuor, disco hypogyno inserta. STAMINA quatuor, calycis lobis opposita, filamentis glabris basi intus uniglandulosis. STYLUS unicus. STIGMA quadrilobum. CARPELLA quatuor, intus connexa in capsulam quadrilobam, quadrilocularem, lobis divaricatis. SEMINA in loculis solitaria, compresso-ovata. FRUTICES aut arbores. FOLIA oppos.ta, petiolata, trifoliolata, summa simplicia. PEDUNCULI axillares, sæpius trichotomi : FLORES parvi, albi.

SPECIES. ZIERIA LÆVIGATA, (*SMITH*) Ramulis glabris, foliolis linearibus margine revolutis glabris v subtus minute puberulis, petiolo longioribus, pedunculis semel bisve trifidis corymbosis folio brevioribus.

CHARACTER OF THE GENUS, ZIERIA. CALYX four-cleft. PETALS four, inserted on a hypogynous disk. STAMENS four, opposed to the divisions of the calyx; the filaments smooth, each with a gland at the base, on the inside. STYLE one, with a four-lobed stigma. CARPELS four, joined into a four-lobed four-celled capsule, with spreading lobes. SEEDS solitary in each cell, oval, compressed.

DESCRIPTION OF THE SPECIES, ZIERIA LÆVIGATA. AN erect SHRUB. BRANCHES spreading, slender, nearly cylindrical, and perfectly smooth. LEAVES opposite, with three leaflets palmately arranged; foot-stalks one or two lines long, smooth; leaflets sessile at the end of the foot-stalk, linear, from half an inch to an inch long, pointed, quite entire, with the margins much rolled back and often somewhat wavy, marked with transparent dots, the upper surface of a dark green and smooth, the under surface whitish, with a very minute down, only discernable under a magnifying glass. PEDUNCLES axillary, rather shorter than the leaves, smooth, bearing a little loose bunch, or corymb, of from three to eight or ten flowers. BRACTS at the base of each pedicel, linear, small. PEDICELS opposite, one or two lines long, smooth, with a pair of minute opposite bracteolæ.

Calyx nearly a line long, smooth, deeply four-cleft; the divisions ovate, pointed. Petals spreading, more than twice as long as the calyx, white with a slight tinge of pink, oval-oblong, blunt. Stamens alternating with the petals, very short; anthers tipped with white, and when the flower expands, covered with the rich orange-coloured pollen. Glands at the base of the stamina, crescent-shaped, purple.

Popular and Geographical Notice. The genus Zieria consists of about a dozen species, found in the south-eastern districts of Australia, from the neighbourhood of Port Jackson to Van Dieman's Land. Though not so showy as some of their allies from the same country, the Boroniæ, they are many of them elegant shrubs, and especially the species now figured, which has a graceful habit, and with flowers much more abundant in proportion to the foliage than the others. The genus is at once distinguished from most of the Australian Diosmeæ, by the leaves being all, or most of them, trifoliolate; and from Boronia, of which many species have compound leaves, by the total want of the second row of stamens, those opposed to the petals. G. B.

Introduction; Where grown; Culture. Ziera lævigata, which grows to the height of three feet, was introduced into this country in the year 1822, but has been rarely met with in our own greenhouses till since young plants have been again propagated from New Holland seeds. Our drawing was made at the extensive nursery establishment of the Messrs. Rollisson of Tooting, in May last, where plants may be obtained. As may readily be conceived from our figure of this species it forms a pretty ornament, from its very numerous delicate flowers. It should be potted in a mixture of sandy loam and peat, and requires to be kept under glass at all times. It is less easy of increase than most other similar plants; cuttings will, however, root slowly in sand, under a bell glass, with a little bottom heat.

### Derivation of the Names.

Zieria, named by Sir James Smith, in honour of a botanist of the name of Zier. Lævigata smooth.

### Synonymes.

Zieria lævigata. Smith: in Rees's Cyclopædia. De Candolle: Prodromus, v. 1, p. 723.

Mme Lepelletier del

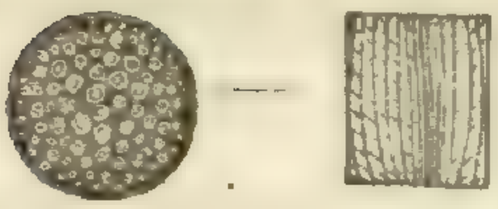
*Comparettia coccinea*

Vanderdonckt

# COMPARET'TIA COCCIN'EA.

## CRIMSON FLOWERED COMPARETTIA.

ENDOGENÆ, OR MONOCOTYLEDONEÆ.



{ Natural division to which this Plant belongs. }

NATURAL ORDER, ORCHIDACEÆ.

GYNANDROSÆ, OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }

GYNANDRIA, MONANDRIA, OF LINNEUS.

No. 186.

GENUS. Comparettia. *Poppig et Endlicher.* Perigonii conniventis foliola exteriora angusta, basi cohærentia, lateralia in unicum connata, basi in calcar producta, supremum inferne columnæ adnatum; interiora paullo latiora libera. Labellum posticum, cum columna unguiculatum, ungue basi subtus in cornua duo intra calcar abscondita producto, lamina reniformi, integra vel basi bidentata, convexa, emarginata, disco cristata. Columna semiteres, membranaceo-marginata, medio inflata. Anthera bilocularis, membranacea. Pollinea 2, caudiculis duabus filiformibus elasticis, glandulæ ovali convexiusculæ adhærentibus. Herbæ, Peruanæ epiphytæ, pseudo-bulbiferæ; pseudobulbis exiguis, monophyllis, folia oblonga, obtusiuscula, nervosa, racemis radicalibus simplicibus vel ramosis, subsecundis, bracteatis. *Endlicher:* Genera Plantarum, p. 202.

SPECIES. Comparettia coccinea. (*Lindley.*) Foliis angustis coriaceis apice obliquis acutis sepalo antico calcari falcato duplo breviore, labello obcordato subrepando basi bilamellato calcaribus subulatis ciliatis, columna medio sub stigmate elevata. Bot. Reg. vol. xxiv, p. 68.

Character of the Genus, Comparettia. Outer Folioles (sepals) of the converging perigone narrow, cohering at the base, the lateral ones united into a single piece, the base lengthened into a spur, the upper one united below to the column; the internal folioles broader, free. The posterior lip formed into a claw with the columns, the claw prolonged at the base into two horns which are hid within the spur; lamina kidney-shaded, entire, or two-toothed at the base, convex, emarginate, crested with a disk. Column roundish, membranous at the margin, inflated in the middle. Anthers, two-celled, membranous. Pollen Masses two, with two slender elastic little tails, which cohere to an oval convex gland.

Description of the Species, Comparettia coccinea. Pseudobulbs small. Leaves narrow, thick, coriaceous, oblique at the apex, and somewhat pointed by the prolongation of a strong central nerve, green on the upper surface, purple or pink on the under. Racemes terminal, subsecund. Peduncle slender, furnished with a few small

remote subulate scales or bracts; pedicels supported by minute bracts. PERIGONE ringent. The interior sepal acute, one half shorter than the falcate spur, lip obcordate, spreading, slightly notched at the margin, having two plates at the base, prolonged downwards in the form of two spurs, which are lodged in the outer spur, formed by the cohesion of the two lateral sepals, the inner spurs subulate, and clothed with ciliæ, column elevated under the middle of the stigma.

POPULAR AND GEOGRAPHICAL NOTICE. This very peculiar genus of orchidaceous plants merits observation. It is entirely distinct from all hitherto known, though allied on the one hand to the genus Diadenium, and on the other to Jonopsis. It has the singular structure of the labellum being prolonged in the form of two spurs, and hid within the outer spur, formed by the united pair of lateral sepals; thus, as Dr. Lindley remarks, presenting the same peculiarity among orchidaceæ, which the genus Aconitum, or rather Delphinium has among Ranunculaceæ. This is in itself a sufficient motive for bringing it before our readers, but we were also anxious to secure a figure of it, lest the original should be lost. One plant only, has been brought to Europe, and it is to be feared its existence cannot be insured. It is always beneficial to snatch the opportunity of making known a peculiarity of structure, for these enable the affinities of plants to be more fully made out, and serve to link together the members, at present disjoined, of the vegetable kingdom, in a natural series. Three species of the genus are now known, two natives of Peru, and the one now figured, respecting which some doubt occurs. Messrs. Loddiges, in their catalogue, assign it to Brazil, which is not unlikely, being in the same latitude as Peru; but Dr. Lindley finding it agree with some dried specimens from Xalapa, thinks that Mexico may be its native country.

INTRODUCTION; WHERE GROWN; CULTURE. It was brought to England, in 1835.? The rich collection of Messrs. Loddiges contains the unique specimen from which our drawing was made. It is suspended from the roof, attached to a branch in the stove.

### DERIVATION OF THE NAMES.

COMPARETTIA, called by Pöppig and Endlicher, in honour of Andreas Comparetti, professor at Padua, who first understood the real nature of spiral vessels, and who wrote with much ability on vegetable physiology. COCCINEA, crimson.

### SYNONYME.

COMPARETTIA COCCINEA. Bot. Reg. v. XXIV, t. 68.

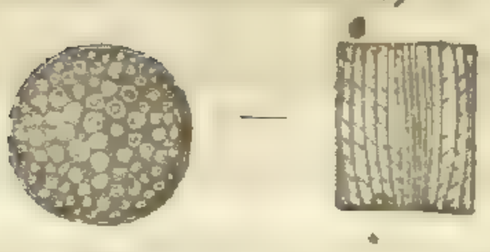
Miss Maund del.

*Hypoxis erecta proliferans.*

# THYSANOTUS PROLIF'ERUS.

## PROLIFEROUS THYSANOTUS.

ENDOGENÆ, OR MONOCOTYLEDONEÆ.



{ Natural division to which this Plant belongs. }

NATURAL ORDER, LILIACEÆ.

HYPOGYNOSÆ, OF LINDLEY.

{ Artificial divisions to which this Plant belongs. }

HEXANDRIA, MONOGYNIA, OF LINNEUS.

No. 187.

GENUS. Thysanotus. *Brown*. Perianthium 6-partitum, patens, persistens; foliolis interioribus latioribus, limbo utrinque colorato, marginibus fimbriatis ciliis articulatis. Stamina 6, (raro 3) imo perianthio inserta, vel hypogyna, declinata. Filamenta glabra, brevia. Antheræ lineares, emarginaturæ, baseos insertæ, 3 interiores sæpius elongatæ, reclinatæ. Ovarium loculis dispermis. Stylus filiformis, declinatus. Stigma parvum. Capsula 3-locularis, 3-valvis, valvis medio septiferis. Semina bina, altero erecto, altero pendulo, strophiolata. Herbæ perennes. Radix fibrosa, vel e bulbis fasiculatis, carnosis. Folia anguste linearia, sæpius canaliculata, quandoque filiformia vel abbreviata. Flores terminales, umbellati raro sparsi, pedicellis medio articulatis. Perianthii foliola intus cærulea, extus calycina. Antheræ purpureæ, loculorum valvula exteriore productiore, exteriores quandoque albicantes, in triandris deficientes. Capsula perianthio emarcido tecta. Semina atra, margini interiori, sæpe in pedicelli speciem attenuatæ, strophiolæ albæ cyathiformis vasculosæ inserta. Albumen dense carnosum. Embryo excentricus? *Brown*: Prodr. 1, 282.

SPECIES. Thysanotus proliferus (*Lindley*,) foliis linearibus, longissimis, canaliculatis, glabris; scapo prolifero; umbellis multifloris; pedicellorum articulo inferiore bracteis longiore (exterioribus exceptis;) staminibus tribus, styloque decurvis. *Lindley*: in Bot. Reg. 8 Ann. 1838.

Character of the Genus, Thysanotus. Perianth 6-partite, spreading, persistent; inner leaflets the broadest, limb coloured on both sides, margin fimbriated with articulated hairs. Stamens six (rarely three,) inserted into the bottom of the perianth, or hypogynous, declined. Filament glabrous, short. Anthers linear, becoming emarginate, inserted by the base, the three inner for the most part longer and reclined. Ovarium with dispermous loculaments. Style filiform, declined. Stigma small. Capsule 3-locular, 3-valvular, the valves bearing the dissepiments in their middle. Seeds two together, the one erect, the other pendulous, strophiolate.

Description of the Species, Thysanotus proliferus. Root fibrous. Stem erect, compressed, glabrous, green, branched, leafless

excepting at the base, or at its subdivision when this is low, where occasionally a single short leaf, or greatly enlarged bractea is produced. LEAVES linear, numerous at the base of the stem, dark, green, or subglaucous, glabrous, channelled, equal to the stem, but from decaying at the apex in the specimen described appearing shorter. UMBELS many-flowered, one or two upon each stem, approximated or remote, in the former case the lateral one sessile, in the latter supported upon a stalk, more or less elongated, at the origin of which there are generally two flowers. BRACTEÆ ovato-subulate, herbaceous, with scariose edges. PEDICELS articulated above the base, each springing from the axil of a bractea, the lower joint being longer than this in all the flowers except a few on the outside; upper joint longer than the lower, and more glaucous. SEPAL ovato-oblong, spreading wide, mucronate, on the outside glaucous, within purple, edges scariose. COROLLA $1\frac{1}{2}$ inch across, very handsome, of bright lilac colour; petals oblong, having in the centre an opaque linear stripe, which is glaucous and 3-ribbed externally, internally of deep lilac, sides of clear and paler lilac, and edges with long silky fringes of the same colour. STAMENS 3, bent to one side of the flower; filaments short and colourless; anthers more than twice as long as the filaments, curved, having two slightly divaricated yellow lobes at the base, above of a deep purple colour; pollen white, granules very minute. PISTIL rather longer than the stamens, curved in the opposite direction from them; stigma minute, terminal; style subulate, grooved on three sides; germen ovate, grooved; ovules two in each cell.

POPULAR AND GEOGRAPHICAL NOTICE. The beautiful genus Thysanotus has been found widely distributed round New Holland and in Van Diemen's Land; the species now figured, the finest in cultivation, is from Swan River. It begins to flower in May, but produces blossoms in long succession for many weeks. Each flower expands between eight and nine in the morning, and closes permanently about two, p. m. That the function of irritability, with whatever structure connected, is the same thing in animals and in vegetables, and that it is subject to the same laws, any one who will take the trouble to investigate, or, to speak more appropriately, has heart and head enough to receive pleasure in the investigation of the phenomena, may very soon satisfy himself. Irritability is elicited by the application of stimuli, exhausted by the continuance of their application, and recruited after

they are withdrawn. Light, heat, and electricity, are the great stimuli common to vegetable and animal life. The agency of the first causes certain plants to expand their blossoms at a particular hour, and the continuance of its action causes them to close at an hour, quite as definite in many instances. On the contrary, both or either of these phenomena, the expansion and the closing of the blossoms, may be retarded beyond the usual period, by altered conditions with regard to light. This is well known and acknowledged by those who contend, that in all this there is no proof of any thing beyond the mechanical action of an agent, on a mass of peculiar capillary tubes. Sir James Edward Smith, however, long ago, pointed out a wide distinction between caloric acting as a mechanical agent upon a mere mass of matter, and as a stimulus upon a living vegetable. Had it acted as a mechanical agent upon a mere mass of matter, then its effects must have been equal when applied in the same degree at different times to the same plant. This, however, is notoriously untrue, in regard of the agency either of heat or of light. The effect is diminished according to the amount of excitement to which the individual had been exposed before the experiment began, exactly as occurs, when a stimulus is applied to an animal; an observation made by Mr. James M'Nab on Thysanotus proliferus, illustrates another similarity in the phenomena of irritability in the two living kingdoms of nature. Every medical man knows that certain spasmodic actions are continued by habit in an animal, recurring regularly at certain periods; but that if this regularity be broken, by medicine or otherwise, and one paroxysm retarded, the hour of accession becomes irregular for a while. It is notorious that this is also true with respect to various healthy periodical actions in the animal economy. The observation by Mr. M'Nab, shows that precisely the same thing occurs with our plant. I have mentioned the hours at which, in clear weather, the opening and closing of the flowers occurred with great precision. A flowering plant was in the evening removed, by Mr. M'Nab, from the stove, and placed in a dark room. Next day its flowers were not expanded till twelve o'clock, and did not close till late in the evening. The plant was then (that is in the evening after the flowers had closed) taken back to its former position in the stove, but next morning the flowers did not expand before nine o'clock, as formerly, they expanded only at twelve, but they closed, as usual, at two o'clock;—in one day more, the natural periods were re-established.

This is the first instance which has come under my notice, of habit in the expansion of flowers having been broken in upon by an external agent,—attention to the circumstance I doubt not will produce many, in this act of vegetable life, as well as in the periodical expansion and folding of the leaves. GRAH.

INTRODUCTION; WHERE GROWN; CULTURE. Seeds of Thysanotus proliferus were imported by Robert Mangles, Esq. from Swan River, and plants were raised in his garden at Sunning Hill. The specimen figured, flowered in the garden of the Caledonian Horticultural Society, in May, 1839, a plant having been obtained from Mr. Veitch, nurseryman, Exeter, in the Autumn preceding. It was planted in a mixture of peat and leaf mould, and kept in stove heat, from an impression which Mr. M'Nab had received, that it had been found elsewhere too tender for the greenhouse. A remarkably fine specimen of this plant, which had been similarly treated, was transmitted to us from Camerton House Gardens, by the request of its liberal proprietor, J. Jarratt, Esq., to whose obliging attention we owe many obligations.

### DERIVATION OF THE NAME.

THYSANOTUS, from *θυσανωτος*, fringed, in allusion to the form of the corolla.

### SYNONYME.

THYSANOTUS PROLIFERUS. Lindley.

*Meyenia Hinckleyana*

# MEYEN'IA HAWTAYNEA'NA.

## HAWTAYNE'S MEYENIA.

EXOGENÆ OR DICOTYLEDONEÆ.

{ Natural division to which this Plant belongs. }

NATURAL ORDER, ACANTHACEÆ.

COROLLIFLORÆ, OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }

DIDYNAMIA, ANGIOSPERMIA, OF LINNEUS.

No. 188.

GENUS. MEYENIA. *NEES.* CALYX basi bibracteolats, brevus, quinquefidus. COROLLA infundibuliformis, tubo brevi annulo piloso clauso, fauce sensim ampliata, limbo quinquefido patente subæquali. STAMINA quatuor didynama; antheræ biloculares, apice barbatæ, loculi superiorum inæquales altero divergente, hinc tomentoso, interiorum subæquales, paralleli, basi mutici. OVARIUM biloculare, loculis biovulatis. STYLUS simplex. STIGMA bilabiatum, labiis bilobis. CAPSULA e basi globosa in rostrum conicum angustata, loculicide bivalvis. SEMINA strophiola cupuliformi spongiosa solubili excepta.

SPECIES. MEYENIA HAWTAYNEANA. (*NEES.*) FRUTEX scandens, foliis oppositis subsessilibus cordatis, floribus axillaribus solitariis pedunculatis.

CHARACTER OF THE GENUS, MEYENIA. CALYX with two bracteoles at the base, short, five-cleft. COROLLA funnel-shaped, the tube short and closed with a ring of hairs, the throat widened, the limb five-cleft, spreading, nearly regular. STAMENS four, of which two are longer; anthers two-celled, bearded at the apex; the cells of the longer pair unequal, one cell of each anther divergent and woolly, those of the shorter pair nearly equal, parallel, without spurs at the base. OVARY two-celled, each cell with two ovules. STYLE simple. STIGMA two-lipped, each lip two-cleft. CAPSULE globular at the base, terminating in a conical narrow beak, dividing across the cell into two valves. SEEDS bearing a cup-shaped spongy strophiola, separable from the seed.

DESCRIPTION OF THE SPECIES, MEYENIA HAWTAYNEANA. STEM shrubby. BRANCHES twining, slender, four-sided, slightly downy, glaucous, dichotomous, almost articulate and hairy at the joints. LEAVES opposite, on very short stalks, ovate, entire, with a short point slightly heart-shaped, and stem-clasping at the base, two to three inches long, thick and firm, glaucous on both sides, especially underneath, smooth, with prominent reticulate veins. PEDUNCLES axillary, solitary, one-flowered, shorter than the leaves. BRACTEOLÆ two, opposed to each other at the top of the peduncle, leaf-like, about an inch long, oval, lanceolate, blunt, cohering together when young to about

the middle of their length. CALYX exceedingly short, and completely concealed within the bracteæ, with five very short broad divisions, or rather teeth. COROLLA obliquely funnel-shaped, of a deep purple, the tube twice as long as the bracteolæ, the limb spreading and divided into five broadly-obcordate divisions nearly equal to each other. CAPSULE rigid, smooth, about an inch long.

POPULAR AND GEOGRAPHICAL NOTICE. The genus selected by the younger Linneus, to do honour to Thunberg, was appropriately taken from the Cape Flora, which contains three or four species of these beautiful climbers, and to these about a dozen East Indian species have been added. Subsequently, Nees von Esenbeck, in working up the Acanthaceæ of the East Indian collections distributed by Dr. Wallich, observed differences in the structure of the anthers which induced him to separate the Thunbergia Hawtayneana of Wallich, as a distinct genus under the name of Meyenia, and three others, including the Thunbergia coccinea, under that of Hexacentris, considering the three together as the tribe of Thunbergieæ. We have in this respect followed the above-named distinguished botanist, although it does appear to us that so long as the total number of species remains so small, and they resemble each other so much in habit, it would have been better to have kept the genus of Thunbergia for the whole of them, dividing it into so many sections, which would have equally answered the purposes of science, and created less confusion in nomenclature. The present species, a native of the mountains of the Indian Peninsula, differs indeed from the true Thunbergias in the colour of the flowers, but that is variable in the old genus as even now limited, and there is nothing else in its general appearance to enable one to recognize this Meyenia as distinct from Thunbergia without a close examination of the anthers. G. B.

INTRODUCTION; WHERE GROWN; CULTURE. This very splendid shrubby twiner was lately introduced to our gardens by his Grace the Duke of Northumberland, it having been received from Dr. Wallich; and by His Grace's obliging permission was drawn by our artist from a plant in the stove of Sion House gardens. Cuttings of half-ripened wood strike root freely in sand, under a bell-glass; but when these are potted off into loam and peat, the pots should be plunged, and other care taken to prevent irregularity of moisture. When established, they will demand but little attention.

### DERIVATION OF THE NAMES.

MEYENIA, in honour of Dr. Meyen, a distinguished Prussian botanist and traveller. HAWTAYNEANA after Hawtayne, who first gathered this plant in the Nilgherry Hills.

### SYNONYMES.

THUNBERGIA HAWTAYNEANA. Wallich: Plantæ Asiaticæ Rariores, v. 2, p. 52, t. 164.

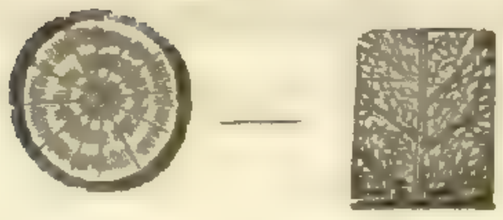
MEYENIA HAWTAYNEANA. Nees von Esenbeck in the same work, v. 3, p. 78.

*Fuchsia cylindracea.*

# FUCH'SIA CYLINDRA'CEA.

## CYLINDRICAL FUCHSIA.

EXOGENÆ. OR DICOTYLEDONEÆ.



{ Natural division to which this Plant belongs. }

### NATURAL ORDER, ONAGRACEÆ.

CALYCIFLORÆ, OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }

OCTANDRIA, MONOGYNIA, OF LINNEUS.

No. 189.

**GENUS.** Fuchsia. *Linnæus.* Calyx basi ovario adhærens, superne productus in tubum cylindraceum quadrilobum, post anthesin articulatim deciduum. Petala quatuor, summo tubo inserta, lobis alterna, rarius nulla. Stamina octo. Ovarium glandula urceolata coronatum. Stylus filiformis. Stigma capitatum. Bacca oblongo- vel ovato-globosa, quadrilocularis, quadrivalvis, vel indehiscens, polysperma. Frutices foliis sæpius oppositis, pedicellis axillaribus unifloris interdum ad apice, ramorum racemosis, floribus sæpius rubris.

**SPECIES.** Fuchsia cylindracea. (*Lindley.*) Fruticosa, ramulis vix puberulis, foliis petiolatis ovatis obtusis subintegerrimis, margine reflexo undulatis, floribus axillaribus pedicello vix brevioribus abortu dioicis, petalis obtusissimis truncatis concoloribus, stylo exserto, staminibus inclusis, alternis reflexis.

Character of the Genus, Fuchsia. Calyx adhering at the base to the ovary, produced above it into a cylindrical four-lobed tube, which falls off after the flowering. Petals four, inserted between the lobes at the top of the tube of the calyx, rarely wanting. Stamens eight. Ovary crowned by an urceolate gland. Style filiform. Stigma capitate. Berry oblong, ovate, or globular, four-celled, many-seeded, opening in four valves, or sometimes indehiscent.

Description of the Species, Fuchsia cylindracea. Stem shrubby, two or three feet high. Branches red, somewhat compressed, the young ones slightly hairy. Leaves opposite, stalked, ovate, blunt, much waved, but otherwise entire, the margins rolled back, from half an inch to an inch, or an inch and a half long, slightly hairy when young, smooth when full grown, green above, pale underneath, and often acquiring a reddish hue. Stipules minute, spreading, subulate when young, afterwards reduced to a gland-like tubercle. Pedicels axillary, solitary in the specimens we have seen, though represented two or three together by our artist, from half an inch to nearly an inch long, one-flowered, without bracts, usually reddish, and slightly hairy when young. Flowers diœcial by the abortion of some of the parts. Calyx about half an inch long, cylindrical, of a fleshy consistence, scarlet, the lobes ovate, pointed, tipped with green. Petals very broad, blunt and truncate, and sometimes slightly toothed, shorter

than the lobes of the calyx, scarlet, with a little orange tint inside. STAMENS included in the tube of the calyx, and inserted near its mouth, filaments very short, those opposite the segments of the calyx erect, the others reflexed, anthers ovate, much reduced in the female individuals, and without pollen. OVARY very small in the males, globular, and nearly the diameter of the calyx in the females. STYLE longer than the calyx, with a four-lobed stigma, reduced in the male flowers to a slender thread with a small knob at the extremity.

POPULAR AND GEOGRAPHICAL NOTICE. If this plant be compared with Fuchsia fulgens on the one hand, or with the gracilis or globosa on the other, it seems as if they ought not to belong to one genus, yet the botanical characters are very similar in all; and above all, the great facility with which the most dissimilar species will hybridize together, show that it would be both inconvenient and unscientific to separate them. The only group, for the generic distinction of which any plausible grounds may be assigned, is that which includes the present species, the Fuchsia microphylla, thymifolia, and some other small-flowered ones, chiefly, if not entirely, Mexican. The polygamous, frequently diœcious, flowers, and especially the included alternately reflexed stamens, together with some details of less importance, have been made use of by Zuccarini to establish his genus Encliandra, a much better founded one than many others universally adopted, but perhaps too inconvenient on account of hybrids to be preserved in a group of plants so especially a garden one, and the same scientific end will be answered by considering Encliandra as a section of Fuchsia. As to the six genera into which Spach has taken upon himself to distribute the Fuschias, their adoption must be out of all question. G. B.

INTRODUCTION; WHERE GROWN; CULTURE. Seeds of Fuchsia cylindracea were obtained from Mexico, by George Barker, Esq. of Springfields, near Birmingham, and by him presented to the Horticultural Societies of London and Birmingham, in each of which establishments, plants were raised in 1837. It flowers more luxuriantly in the borders than in pots, and is, probably, as hardy as any of the better-known species. In case of attempts being made to hybridize this species, it must be remembered that its flowers are diœcious, some having only perfect stamens, whilst others have only perfect pistils. It may be propagated by cuttings, and should be potted in loam, well-decayed manure, and coarse sand.

### DERIVATION OF THE NAMES.

FUCHSIA, in honour of L. Fuchs, a German botanist. CYLINDRACEA, cylindrical.

### SYNONYME.

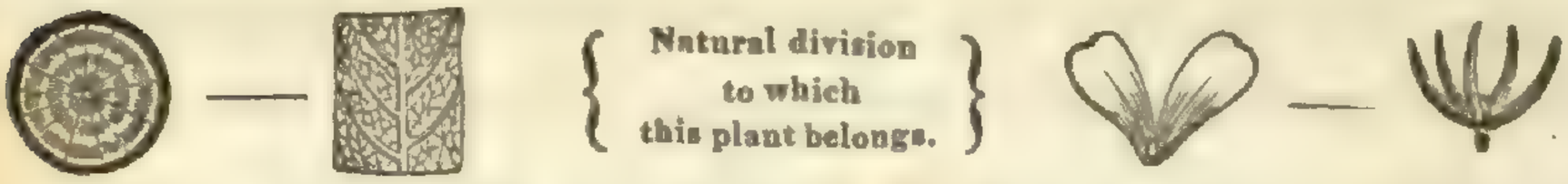
FUCHSIA CYLINDRACEA. Lindley: Botanical Register, 1838, 66. t.

*Solanum angustifolium*

# SOLA'NUM ANGUSTIFO'LIUM.

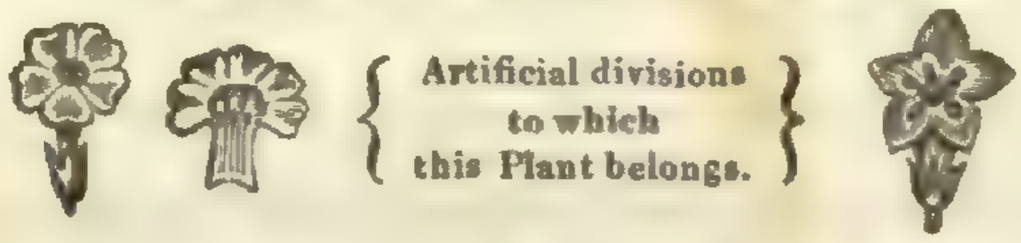
## NARROW-LEAVED SOLANUM.

EXOGENÆ, OR DICOTYLEDONEÆ.




## NATURAL ORDER, SOLANACEÆ.

COROLLIFLORÆ, OF DECANDOLLE.




PENTANDRIA, MONOGYNIA, OF LINNEUS.

No. 190.

GENUS. Solanum. *Linnæus.* Calyx quinque vel decemfidus. Corolla rotata vel rarius campanulata, tubo brevi, limbo plicato quinque- vel decemfido, rarius quadri- vel sexfido. Stamina quinque, rarius quatuor vel sex, corollæ fauci inserta, exserta; filamenta brevissima; antheræ æquales vel inæquales, conniventes, apice poris geminis dehiscentes. Ovarium bi-rarius tri- quadriloculare, placentis dissepimento adnatis multiovulatis. Stylus simplex. Stigma obtusum. Bacca bi- rarius tri-quadrilocularis. Semina plurima subreniformia. Herbæ, suffrutices, frutices vel arbores, inermes vel aculeati, foliis alternis; floribus lateralibus vel terminalibus in pedunculo solitariis pluribusve.

SPECIES. Solanum angustifolium. (*Lamarck.*) Inerme, caule fruticoso, ramis subherbaceis, foliis angusto-lanceolatis integerrimis obtusiusculis glaberrimis, pedunculis terminalibus lateralibusque, floribus corymbosis, calycibus breviter quinquefidis, staminibus æqualibus.

Character of the Genus, Solanum. Calyx five or ten cleft. Corolla rotate or rarely bell-shaped, the tube short, the limb folded with five or ten, rarely four or six, divisions. Stamens five, rarely four or six, inserted in the throat of the corolla, and projecting from it, the filaments very short, the anthers equal or sometimes unequal, connivent, opening at the apex by two pores. Ovary two-celled, rarely three or four-celled, the placentæ adhering to the dissepiment, and bearing many ovules. Style simple. Stigma blunt. Berry two-celled, rarely three or four-celled. Seeds several, nearly reniform.

Description of the Species, Solanum angustifolium. Stem shrubby at the base, erect, with herbaceous cylindrical or slightly angular branches, perfectly smooth, as well as the whole of the plant, and without any prickles, growing to the height of three or four feet. Leaves alternate, borne on short stalks, narrow, lanceolate, blunt, or scarcely pointed, entire, a little narrowed or wedge-shaped at the base, two to four inches long, rather thick, smooth, and without prickles. Peduncles terminal, or occasionally lateral, bearing a cyme, having

the appearance almost of a corymb, consisting of a considerable number of pale blue flowers. Bracts usually none. Pedicels half an inch to three quarters in length. Calyx short, cup-shaped, smooth, divided at the top into five broad short lobes, which are slightly pointed and membranous on the margin. Corolla rotate, nearly an inch in diameter, divided to the middle into five broadly oval lanceolate lobes. Anthers yellow, all equal and similar.

Popular and Geographical Notice. This is one of several ornamental species of this extensive genus found in the neighbourhood of Buenos Ayres, where it is said to be not uncommon, in hedges, by the side of ditches and marshes and other rich situations. It appears to vary in the proportionate length and breadth of the leaves, in the looser or more dense inflorescence, and perhaps in the size of the flowers, even in a wild state. There are also among Mr. Tweedie's wild specimens some in which he ascribes a fine blue colour to the flowers instead of the more usual pale blue, but they all seem to belong to one species. G. B.

Introduction; Where grown; Culture. This species was originally described by Lamarck and Poiret, from wild specimens brought home by Commerson, but we believe that the plant of which we now publish a figure is the first introduced to British cultivation. Its seeds were collected at Buenos Ayres, by Mr. Tweedie, and introduced to his Grace the Duke of Portland's gardens, at Welbeck, in 1838. Mr. Tillery, under whose very judicious management this evergreen shrub was raised, informs us that it is now (1840) three feet high, that it has been in flower in the stove all the summer; and, in addition to its being ornamental, it is very fragrant. Mr. Tillery finds that cuttings strike root readily; and that it flourishes in a compost of loam, sand, and peat.

### Derivation of the Names.

Solanum, from Solāri, to assuage, in reference to the sedative and soothing properties of some of the species employed in medicine. Angustifolium, narrow-leaved.

### Synonymes.

Solanum angustifolium. Lamarck: Illustrations, n. 2343. Dunal Monographie des Solanum, p. 159.

Mrs Withers del.

*Indigofera stipularis*

Sowerby Sculpt

# INDIGOFERA STIPULARIS.

## LARGE-STIPULED INDIGOFERA.

EXOGENÆ. OR DICOTYLEDONEÆ.

{ Natural division to which this Plant belongs. }

## NATURAL ORDER, LEGUMINOSÆ.

CALYCIFLORÆ, OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }

DIADELPHIA, DECANDRIA, OF LINNEUS.

No. 191.

GENUS. INDIGOFERA. *LINNÆUS.* CALYX campanulatus quinquefidus vel quinquedentatus. COROLLA papilionacea, vexillum obovatum vel orbiculatum retusum; alæ horizontaliter patentes; carina alis brevior, recta vel parum incurva, sub alis recondita, utrinque lateraliter calcare sæpius subulato aucta. STAMINA diadelpha, filamento vexillari libero, omnibus apice filiformibus; antheræ consimiles ovatæ connectivo mucronulatæ. OVARIUM bi-vel pluri-ovulatum. STYLUS filiformis. STIGMA obtusum vel capitatum. LEGUMEN lineare vel oblongum, rectum vel arcuatum, teres vel compressum, exalatum, intus isthmis cellulosis transverse divisum, bivalvatim dehiscens. HERBÆ fruticesve, foliis pinnatim uni-plurifoliolatis vel palmatim tri-quinque foliolatis, pedunculis axillaribus unifloris vel racemiferis.

SPECIES. INDIGOFERA STIPULARIS. (*LINK.*) SUFFRUTICOSA decumbens, aspero-pubescens, foliis petiolatis palmatim trifoliolatis, foliolis obovatis strigosis, stipulis ovatis foliaceis petiolum æquantibus, racemis longe pedunculatis multifloris, petalis glabris, leguminibus teretis rectis pendulis glabris.

CHARACTER OF THE GENUS, INDIGOFERA. CALYX bell-shaped, five-toothed or five-cleft. COROLLA papilionaceous, the standard obovate or roundish, blunt; the wings spreading horizontally, and concealing the keel, which is shorter than the wings, straight or slightly curved, blunt, and furnished on each side with a prominent spur. STAMENS diadelphous, the upper filament free from the base, and all filiform at the top. ANTHERS all alike, ovate, surmounted by a small point. OVARY with two or many ovules. STYLE filiform. STIGMA blunt or capitate. POD linear or oblong, straight or curved, cylindrical or compressed, divided between the seeds by a cellular tissue, opening in two valves.

DESCRIPTION OF THE SPECIES, INDIGOFERA STIPULARIS. STEM decumbent, shrubby at the base. BRANCHES clothed with rough hairs. LEAVES composed of a common stalk, four or five lines long, and three leaflets palmately arranged, obovate, blunt, with a small projecting point narrowed at the base, green on both sides, and thickly covered with stiff appressed hairs, most of them attached by the centre. STIPULES large and leaf-like, ovate, pointed, about the length of the leaf-

stalks. Flowers in a dense raceme, at the end of a penduncle, of about three inches long, the raceme itself one or two inches long. Bracts about as long as the calyx, but falling off early. Pedicels very short. Calyx slightly hairy, the teeth lanceolate at the base, then subulate, the longest rather longer than the tube. Petals all smooth, the standard about three lines long. Pod pendulous, straight, linear, cylindrical, smooth.

Popular and Geographical Notice. The genus Indigo, some species of which furnish the well known blue dye of that name, is a very numerous one in the warmer parts of both hemispheres, especially in Asia and Africa; and in the latter continent it extends to the southern extremity. Indeed, a great proportion of the species, of those especially, which like the one before us, have digitate leaves, are natives of the Cape colony. The Indigofera stipularis is found in elevated rocky situations on the borders of Cafferland, at the eastern limits of the colony, about the Winterberg, the Katberg, &c.

Independently of the commercial importance of some species, the genus Indigofera is also botanically remarkable as an extensive well-characterised genus, and yet offering great variation in the arrangement of the leaflets, a character so constant through the greater part of the order as to be used in distinguishing tribes. There are few cases indeed where digitate, and alternately pinnate, leaves occur in the same tribe, and scarcely any besides Indigofera where the two forms are met with in the same genus. On the other hand the inflorescence and flowers, as well as the general habit of the species of Indigofera, with both forms of leaves, are very much alike; all have the characteristic tooth-like process on each side of the keel, on which the expanded wings rest, and most, if not all, have more or less of a peculiar kind of stiff appressed hairs attached by the centre, which give a greyish hoary appearance to the dried specimens. G. B.

Introduction; Where grown; Culture. Introduced into European botanical gardens about the year 1816; it has seldom, if ever, been transferred to ornamental collections, although like many other Cape species it certainly deserves a place in our greenhouses. It is easy of cultivation, not requiring so great a degree of summer heat as the plants from the neighbourhood of Cape Town. Our drawing was made at the Royal Gardens, at Kew, in May last (1840).

### Derivation of the Names.

Indigofera, Indigo-bearing. Stipularis, with large stipules.

### Synonymes.

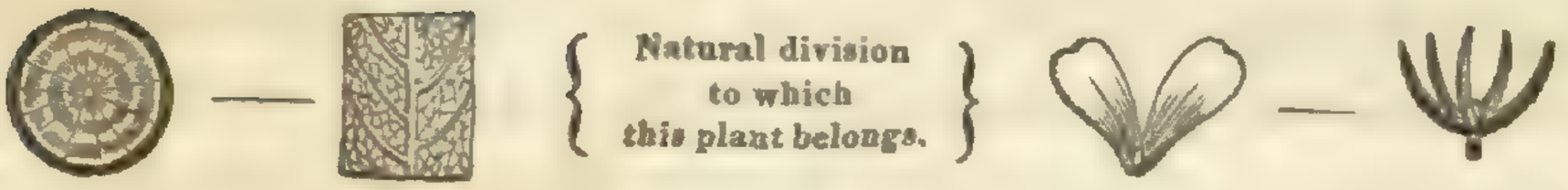
Indigofera stipularis, Link: Enumeratio Horti Berolinensis, v. 2, p. 250. De Candolle, Prodromus, v. 2. p. 232.

*Solanum vestitum.*

# SOLA'NUM VESTI'TUM.

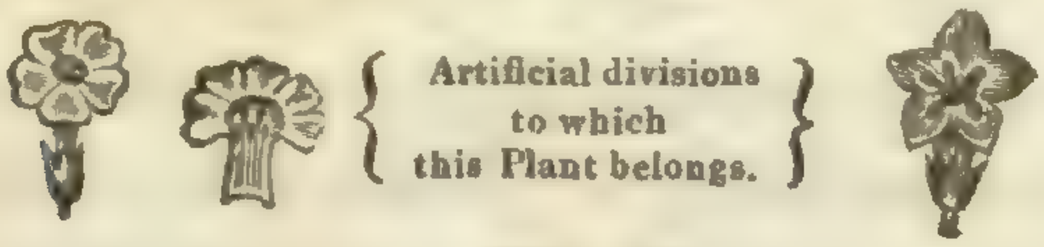
## CLOTHED SOLANUM.

EXOGENÆ, OR DICOTYLEDONEÆ.




## NATURAL ORDER, SOLANACEÆ.

COROLLIFLORÆ, OF DECANDOLLE.




PENTANDRIA, MONOGYNIA, OF LINNEUS.

No. 192.

GENUS. Solanum. *Linneus.* Calyx quinque- vel decemfidus. Corolla rotata vel rarius campanulata, tubo brevi, limbo plicato quinque- vel decemfido, rarius quadri- vel sexfido. Stamina quinque, rarius quatuor vel sex, corollæ fauci inserta, exserta; filamenta brevissima; antheræ conniventes apice poris geminis dehiscentes. Ovarium bi- rarius tri- vel quadriloculare, placentis dissepimentis adnatis multi ovulatis. Stylus simplex. Stigma obtusum. Bacca bi- rarius tri- vel quadrilocularis. Semina reniformia. Embryo periphericus albumen carnosum includens.

SPECIES. Solanum vestitum. Caule fruticoso, foliis amplis ovatis angulato-lobatis utrinque ramisque aculeis sparsis rectis armatis et pilis apice stellatis rufo-hirsutissimis; pedunculis lateralibus breviter racemosis, calycis campanulati hirsutissimi laciniis brevibus ovatis apice subcoloratis, corollis amplis profunde 6-7-fidis extus villosis.

Character of the Genus, Solanum. Calyx five or ten cleft. Corolla rotate, or rarely bell-shaped, the tube short, the limb plicate, five or ten cleft, rarely four or six cleft. Stamens five, rarely four or six, inserted in the throat of the corolla, and projecting beyond it; the filaments very short, the anthers connivent, opening at the top by means of two pores. Ovary two-celled, rarely three or four celled; the placentæ adhering to the dissepiment, and bearing many ovules. Style simple. Stigma blunt. Berry two-celled, rarely three or four celled. Seeds reniform. Embryo placed in the circumference, and surrounding a fleshy albumen.

Description of the Species, Solanum vestitum. A tall Shrub, *forming almost a small tree.* Branches thick, armed with scattered prickles, which are straight, or nearly so, and scarcely reflexed, and thickly covered with stiff brown hairs, branching at the top in the form of stars. Leaves stalked, single, or two together, from five to ten inches long, broadly ovate, grossly and irregularly marked on each edge with three or four broad, acute lobes, covered on both sides with hairs like those of the branches, and bearing a few

prickles along the principal veins on both sides. PEDUNCLES lateral, thick, about an inch long, bearing a short raceme almost reduced to an umbel of four to eight large lilac flowers; pedicels thick, about half an inch long. CALYX half an inch long, cupshaped, thickly clothed as well as the peduncles with the same hairs as the branches, intermixed with a few prickles, divided at the top into six or seven broad, short lobes, which are often slightly petaloid and coloured. COROLLA two inches and a half in diameter, divided below the middle into six or seven oval lobes, of a bluish lilac colour, with a pale, somewhat yellowish line at the base of each lobe, hairy outside. ANTHERS six or seven, all equal, large, thick and yellow. STYLE projecting beyond the anthers, with a green two-lobed stigma.

POPULAR AND GEOGRAPHICAL NOTICE. This is one of the largest flowered of this extensive genus, and would be one of the most ornamental were it not for the shortness of the flower-stalks, and the large size of the rough-looking leaves, which conceal the flowers in a great measure from view. It is said to be a native of the tropical part of Mexico, and has received in our gardens the name of Solanum stramoniifolium, which is a very different species, perhaps the same as S. torvum. Our plant has some affinity with Solanum Hernandesii, and some other Mexican ones, but easily distinguished from all other prickly species known to us, by the calyx and corolla. The stipitate stellate hairs are also remarkably conspicuous in our Solanum vestitum, and by an attentive examination of those which cover the leaves a gradual passage may be observed from these hairs to the strong simple prickles, there being many of intermediate thickness, bearing at the top one, two, or three stellate branches, instead of five or six as observable on the brown hairs of the stem. G. B.

INTRODUCTION; WHERE GROWN; CULTURE. Raised in the Royal Gardens, at Kew, from seeds transmitted from Mexico by the late Dr. Schiede. It flourishes well in the stove, but on account of the room it takes and the large size of its foliage it can scarcely be recommended, excepting for an extensive collection. Our drawing was made at Kew in December.

### DERIVATION OF THE NAMES.

SOLANUM, from solari to assuage, from the sedative power of some of the species.
VESTITUM, clothed, in allusion to the dense covering of hairs.

*Pavetta Caffra.*

# PAVET'TA CAF'FRA.

## SOUTH AFRICAN PAVETTA.

EXOGENÆ OR DICOTYLEDONEÆ.

{ Natural division to which this Plant belongs. }

### NATURAL ORDER, CINCHONACEÆ.

CALYCIFLORÆ, OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }

TETRANDRIA, MONOGYNIA, OF LINNEUS.

No. 193.

**GENUS.** Pavetta. *Linnæus.* Calyx tubus ovatus, limbus parvus 4-dentatus. Corolla hypocrateriformis, tubo gracili tereti lobis longiore, limbo 4-partito patente. Antheræ 4 ad faucem subsessiles. Stylus longé extra tubum corollæ exsertus, loborum longitudinem superans, apice clavatus, subinteger aut stigmatis cruribus adglutinatis aut vix ac ne vix subdivisis. Bacca drupacea calyce persistente coronata subglobosa bilocularis. Pyrenæ chartaceæ intus planæ aut concavæ dorso gibbæ monospermæ. Albumen cartilagineum. Embryo dorsalis erectus incurvus, cotyledonibus foliaceis, radicula longa. Frutices asiaticæ aut africanæ. Folia opposita. Stipulæ basi latæ apice acutæ aut in aristam setaceam desinentes. Corymbi terminales. Flores albi. D C. Prod. iv. pp. 485, 490.

**SPECIES.** Pavetta caffra. (*Linn. fil.*); foliis obovatis, ramisque glabris; stipulis subulatis, basi herbaceo-membranaceis, connatis; cymis fastigiatis, calycibus 4-fidis, segmentis subulatis, corollæ lobis obovato-oblongis mucronulatis tubo brevioribus.

Character of the Genus, Pavetta. Calyx, tube ovate, limb four-toothed, small. Corolla salver-shaped; tube slender, round, longer than the lobes; limb four-parted, spreading. Anthers four, subsessile in the throat. Style protruded far beyond the tube of the corolla, exceeding the length of the lobes, clavate at the apex, subentire, or the segments of the stigma agglutinated, scarcely or not at all divided. Berry drupaceous, crowned by the persisting calyx, subglobular, bilocular, Pyrenæ papery within, plane or concave, gibbous on the back, monospermous. Albumen cartilaginous. Embryo dorsal, erect, incurved; cotyledons leafy, radicle long.

Description of the Species, Pavetta Caffra. Shrub erect, branches ascending. Whole plant glabrous, except the stigma and the inside of the tube of the corolla. Leaves 2½ inches long, 1¼ inch broad, obovate, petiolate. Stipules small, herbaceous, persisting, dilated connate and membranaceous at the base, subulate at the apex. Flowers in dense terminal cymes, perfumed. Pedicels with two opposite filamentous bracts in the middle. Calyx four-cleft, herbaceous, segments subulate. Corolla white, hypocrateriform; tube (7½ lines long) slender, cylindrical, greenish towards its base, hairy within, especially in its upper part, hairs somewhat reflected; limb

(three quarters of an inch across) four-parted, flat, in the bud imbricated and slightly convolute; segments obovato-oblong, with a small mucro in the centre, from which a dark green streak passes for a little way along the back. STAMENS in the throat of the corolla, alternate with the lobes, and becoming reflected between these. ANTHERS linear, cleft at the base, pointed at the apex; filament short, attached to the back of the anther at the top of the notch; pollen granules minute, rounded, white. PISTIL more than twice as long as the tube of the corolla; stigma clavate, green, pubescent, the hairs being arranged in many vertical lines; style white, erect, filiform. GERMEN inferior, crowned with a small depressed disk, which is superior.

POPULAR AND GEOGRAPHICAL NOTICE. The genus Pavetta is very nearly allied to Ixora, and, in fact, its character differs from that of Ixora only by its much longer style, the agglutinated, not diverging, segments of the stigma, and according to Gærtner in the structure of the fruit and the seed. By Lamarck and Roxburgh, therefore, these genera have been united, and by other writers the species have been confused. The geographical distribution is nearly the same. We do not know whether either possess any of the valuable properties which belong to some of the natural order Cinchonaceæ. Roxburgh says the Indian species are used only for fuel. The present species is a native of Southern Africa.

INTRODUCTION; WHERE GROWN; CULTURE. The genus Pavetta has not the rich colouring of any species of Ixora, but Pavetta Caffra, notwithstanding, is well deserving of cultivation, forming a very pretty compact shrub, and flowering annually in great profusion. It is a species described by the younger Linneus, but introduced into cultivation in Britain only a few years ago. We received it at the Botanic Garden, Edinburgh, from Kew, in 1835, and have kept it in moderate stove heat. It may be a recommendation to many to know that it flowers abundantly even when under a foot high, and never acquires, under proper management, the straggling growth which disfigures some of the other species.

## DERIVATION OF THE NAMES.

PAVETTA, the Malabar name for another species of the genus. CAFFRA, from the country in which this species is native.

## SYNONYMES.

PAVETTA CAFFRA. Lin. fil. Suppl. 121. Thunb. Prodro. 29. Willd. Sp. pl. 1, 611. Pers. Synops. 1, 131. Roemer and Schult. 3, 175. Spren. Sp. 1, 407. De Candolle, Prodro. 4, 491. Ecklon and Zeyher. Plant. Afric. Austral. 364. Bot Mag. 3580.

IXORA CAFFRA. Poiret in Ecyclop. Method. Suppl. 3. 209.

# DENDRO'BIUM MONILIFOR'ME.

## NECKLACE-LIKE DENDROBIUM.

ENDOGENÆ, OR MONOCOTYLEDONEÆ.

{ Natural division to which this Plant belongs. }

## NATURAL ORDER, ORCHIDACEÆ.

GYNANDROSÆ, OF LINDLEY.

{ Artificial divisions to which this Plant belongs. }

GYNANDRIA, MONANDRIA, OF LINNEUS.

No. 194.

GENUS. Dendrobium. *Swartz.* Sepala membranacea, erecta vel patentia, lateralibus majoribus obliquis cum basi productâ columnæ connatis. Petala sepalo supremo sæpius majora, nunc minora, semper membranacea. Labellum cum pede columnæ articulatum vel connatum, semper sessile, indivisum vel trilobum, sæpius membranaceum, nunc appendiculatum. Columna semiteres, basi longé producta. Anthera bilocularis. Pollinia 4, per paria collateralia. *Lindley.*

SPECIES. Dendrobium moniliforme. (*Swartz.*) Caulibus erectis ramosis, internodiis tumidis, foliis oblongis oblique emarginatis obtusis, floribus geminatis foliis longioribus, sepalis petalisque oblongis acutis venosis, labello cucullato acuto conformi. *Lindley.*

Character of the Genus, Dendrobium. Sepals membranous, erect or spreading, the lateral ones largest, oblique, adhering to the elongated base of the column. Petals generally larger, but sometimes smaller than the upper sepal, always membranaceous. Lip articulated or united with the base of the column, always sessile, undivided or three-lobed, generally membranaceous, sometimes furnished with an appendix. Column semi-cylindrical, greatly prolonged at the base. Anther two-celled. Pollen masses four, placed side by side in pairs.

Description of the Species, Dendrobium moniliforme. Stem erect, about two feet high, smooth, increasing in thickness towards the top, thence resembling a club, branched, furnished with joints or nodi, from each of which proceeds a leaf; the internodes, or spaces between the leaves, swollen, of a pale green. Leaves oblong, obliquely two-lobed at the apex, the base short, membranous, embracing the stem. Flowers twin or geminate, borne on a common pedunclc or foot-stalk longer than the leaves, which springs from the upper part of the stem; the pedicels furnished with bracts, which are oblong, obtuse, membranous, slightly hairy. Flower of a delicate rose colour, marked with red veins. Sepals and Petals oblong, lip

cucullate, acute, resembling the other parts, marked in the throat with two yellow spots.

Popular and Geographical Notice. This species occurs only in Japan, in 37° or 38° North Lat., and as this is in the same parallel as Lisbon, it is doubtless subject, periodically, to a very low temperature. Dr. Lindley states, however, that it is also a native of China.

In its natural situation it delights to locate itself among the moss of rocks and trees. The inhabitants of Japan, Kœmpfer says, from some singular superstition, suspend it in a basket before their doors, where it vegetates and flowers, like many of its congeners, without any communication with the earth; it is therefore called an air-plant, or aérophyte, a tribe of ornamental plants, of which the Chinese are extremely fond. It is probable that the Japanese suspend it before their doors on account of its fragrance, which Bontius says rivals that of the orange flower, and affirms that he never in his life experienced so grateful an aroma.

Introduction; Where grown; Culture. This species was introduced by the Horticultural Society about 1820. Our drawing was made from a plant which flowered in October in the superb collection of Messrs. Loddiges, Hackney. It grows in a pot, the surface of which is covered with moss on a stand in the stove, the heat of which these intelligent cultivators do not consider too great for it; though it might be expected to bear with impunity one very much lower, considering the latitude whence it is brought, and the tolerance of cold which the Pœonia moutan exhibits. It might, therefore, perhaps, be preserved in a cold frame, except when about to flower, when it should be placed in a warm, humid atmosphere.

### Derivation of the Names.

Dendrobium, from Δενδρον a tree, and Βιος life, from living upon trees.

Moniliforme, from monile, a necklace, referring to the necklace-like character of the stem.

### Synonymes.

Fu Ran. Kæmpfer: Amœnitates Exoticæ, t. 865.

Epidendrum moniliforme. Linneus: Species Plantarum, 1352.

Dendrobium moniliforme. Swartz: Acta Holm. 1300, p. 264. Willdenow: Species Plantarum, No. 18. Lindley: Species and Genera of Orchidaceous Plants. Bot. Register: 1314.

*Cattleya intermedia.*

# CATTLE'YA INTERME'DIA.

## INTERMEDIATE CATTLEYA.

ENDOGENÆ, OR MONOCOTYLEDONEÆ.

{ Natural division to which this Plant belongs. }

NATURAL ORDER ORCHIDACEÆ.

GYNANDROSÆ, OF LINDLEY.

{ Artificial divisions to which this Plant belongs. }

GYNANDRIA, MONANDRIA, OF LINNEUS.

No. 195.

**GENUS.** Cattleya. *Lindley.* Perigonii foliola exteriora membranacea vel carnosa, patentia, æqualia; interiora sæpius majora. Labellum cum columna articulatum, cucullatum, integrum vel trilobum, columnam involvens. Columna clavata, elongata, semiteres, marginata. Antheræ quadriloculares, carnosæ, septorum marginibus membranaceis. Pollinia quatuor, caudiculis totidem replicatis. Herbæ Americanæ, epiphytæ, pseudobulbiferæ, foliis coriaceis, floribus terminalibus magnis speciosis, sæpe e spatha magna erumpentibus. *Endlicher:* Genera Plantarum, p. 194.

**SPECIES.** Cattleya intermedia; (*Graham*) foliis oblongis emarginatis cauli æqualibus, perigonii foliolis subæqualibus lineari-oblongis obtusiusculis subundulatis, labello trilobo lamellis pluribus in medio carnosis cristato, laciniis lateralibus ovatis obtusis planiusculis intermedio crispo rotundato denticulato.

Character of the Genus, Cattleya. Perigon with the outer leaflets or sepals membranous or fleshy, spreading, equal; the inner ones or petals generally larger. Labellum articulate, with the column hood-shaped, entire, or three-lobed, enclosing the column. Column club-shaped, long, semi-cylindrical, bordered. Anther four-celled, fleshy, the borders of the partition membranous. Pollen masses four, with as many bent back caudicles.

Description of the Species, Cattleya intermedia. Stems elongated, scarcely thickening into pseudo-bulbs. Leaves two or three at the top of the stem, oblong, four or five inches long, spreading, nearly flat, blunt or emarginate at the apex, thick and veinless. Peduncle proceeding from a convolute sheathing blunt spatha, sometimes scarcely longer, sometimes twice as long as the spatha, bearing one or two flowers, each one having at its base a small broad, pointed bract. Perigon consisting of five leaflets, very nearly equal to each other, linear, oblong, more or less undulate, about two inches long, of a faint lilac colour, with a few longitudinal somewhat greenish lines

along the middle, and a short greenish point at the apex. LABELLUM of the same length as the perigon, of a pale colour in the convolute part, terminated by a three-lobed nearly flat broad lamina of a bright crimson on the upper side, bearing in the centre a crest composed of fleshy scales, the lobes much waved and fringed on the edge. COLUMN enclosed in the convolute part of the labellum, and shorter than it is.

POPULAR AND GEOGRAPHICAL NOTICE. The Cattleyas which are common on trees and rocks in the Brazils and Guiana are now frequently sent over, and are becoming abundant in our collections, being amongst the most ornamental and the easiest cultivated of epiphytes. They appear to vary much, and some of the species are difficult to define. The present one appears to connect Cattleya Forbesii with several others, and to have an extensive range, having been received both from Rio Janeiro and from Buenos Ayres.

INTRODUCTION; WHERE GROWN; CULTURE. Cattleya intermedia is a much-admired plant. Its thick fleshy full green leaves have always a pleasing freshness, and its flowers are handsome. It was sent from Rio Janeiro, in 1824, by Mr. Harris, to, we believe, the Royal Botanic Garden of Edinburgh, where it first flowered in this country. Our drawing was made in April, at the establishment of the Messrs. Loddiges, of Hackney. It should be grown in a mixture of rough peat mixed with potsherds, and a large quantity of drainers should occupy the bottom of the pot. It requires to be kept in a warm humid stove during the growing season, but more dry and cool whilst at rest. When increase by division is required, the pseudo-bulb should be cut asunder several weeks before the young plant is intended to be removed to another pot.

### DERIVATION OF THE NAMES.

CATTLEYA named by Lindley, in honour of William Cattley, Esq. of Barnet, a great patron of botany and horticulture. INTERMEDIA intermediate, the species being intermediate between Cattleya Forbesii, and labiata.

### SYNONYMES.

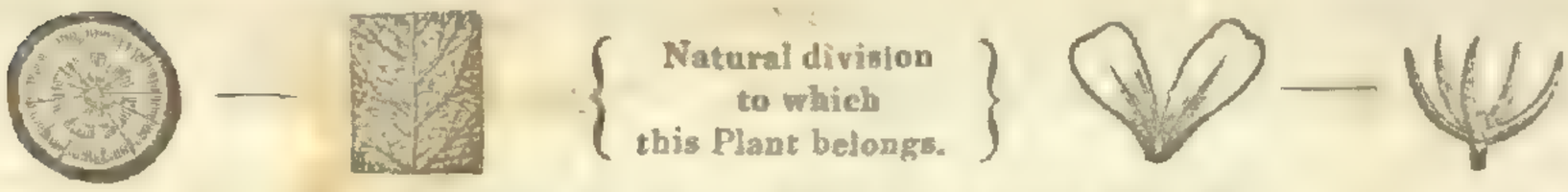
CATTLEYA INTERMEDIA. Graham: in the Botanical Magazine, t. 2851. Lindley: Botanical Register, t. 1919.

*Cerastium vulgatum*

# CHASCA'NUM CUNEIFO'LIUM.

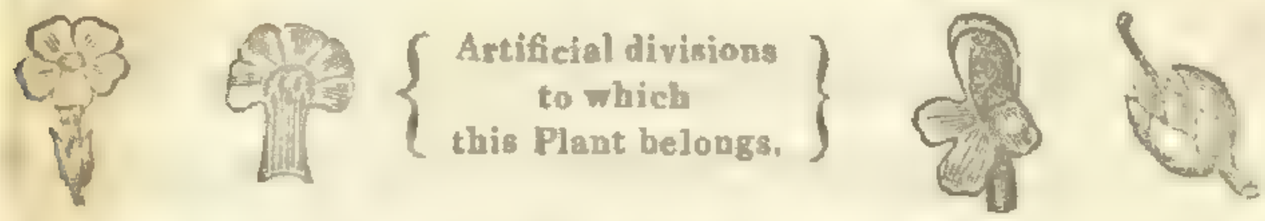
## WEDGE-LEAVED CHASCANUM.

EXOGENÆ OR DICOTYLEDONEÆ.




NATURAL ORDER, VERBENACEÆ.

COROLLIFLORÆ, OF DECANDOLLE.




DIDYNAMIA, ANGIOSPERMIA, OF LINNEUS.

No. 196.

GENUS. Chascanum. *Ernst Meyer.* Calyx tubulosus, quinquedentatus, demum latere longitudinaliter fissus. Corollæ tubus cylindraceus, elongatus, limbus patens, quinquefidus, subbilabiatus. Stamina quatuor, didynama, tubo inclusa. Ovarium quadriloculare, loculis uniovulatis. Stylus terminalis. Stigma obliquum, linguiforme. Drupa exsicca, abortu bilocularis, dimidiato-subquadraugula, foveolis insculpta, mericarpio alteri abortivo squamæformi lateri inferne adhærens. Semina in loculis solitaria. Suffrutices Capenses. Folia opposita dentata vel incisa. Flores spicati.

SPECIES. Chascanum cuneifolium; (*Ernst Meyer*) foliis late cuneatis apice rotundatis grosse 7-9-dentatis, spicis terminalibus elongatis.

Character of the Genus, Chascanum. Calyx tubular, five-toothed, splitting at length longitudinally on one side. Tube of the Corolla long, cylindrical; limb spreading, five-cleft, somewhat two-lipped. Stamens four, didynamous, included in the tube of the corolla. Ovary four-celled, each cell with one ovule. Style terminal. Stigma oblique, tongue-shaped. Fruit a dry drupe, two-celled by abortion, affixed laterally by the base to the scale-like remains of the other half. Seeds solitary in each cell.

Description of the Species, Chascanum cuneifolium. Stem shrubby and branching at the base, smooth, or with a very minute almost imperceptible down. Leaves opposite, broadly wedge-shaped or fan-shaped, about half an inch long and fully as broad, rounded or rarely truncate at the top, and bordered by about seven or nine coarse teeth, entire at the base and narrowed into a short stalk, somewhat folded in their length, thick, smooth, and green on both sides. Flower-spikes slender, from three to six inches long, terminating the stem and branches. Flowers nearly sessile in the axilla of a small ovate-pointed bract, the lower ones of ten opposite, the upper ones alternate, placed at distances of one to six lines from each other. Pedicels usually shorter than the bracts, often almost none. Calyx

about three lines long, tubular, with five very prominent ribs, terminating in very short teeth. Corolla white, with a tube twice as long as the calyx, curved downwards, and somewhat swollen towards the top, limb about half an inch diameter, the divisions nearly equal, oblong, or wedge-shaped, blunt or emarginate, wavy on the margins. Drupe about half the length of the calyx, which opens laterally as the fruit ripens.

Popular and Geographical Notice. The genus Chascanum contains five or six species spread over the Cape Colony, and some of them not uncommon there. The present species and two of the others have long been known to botanists, but have been, on account of some vague resemblance in the corolla, till lately placed in Buchnera, which belongs to a different natural order. The true Buchneræ have always the many-seeded two-celled capsule of the Scrophulariaceæ, whilst Chascanum has only one seed in each cell, and has not only all the essential characters of Verbenaceæ but comes very near to the true Verbenas, from which it chiefly differs in the constant abortion of half the ovary, and in the singular manner in which the calyx opens at the base as the seed ripens. Like the Verbenæ, the Chascana are chiefly found in warm dry situations, and delight in rocky hills. G. B.

Introduction; Where grown; Culture. Our present species was introduced to the Royal Gardens at Kew, in 1821; but has remained a scarce plant, and been little known to cultivators in general. A specimen was obligingly supplied to our artist from the Kew Gardens, in the spring of 1840, from which the original of the annexed plate was drawn. It requires greenhouse protection during winter, and should be potted in sandy loam, mixed with a little peat. It requires to be very well drained.

### Derivation of the Names.

Chascanum from *χασκανον*, a word derived from *χαινω* to gape, already occuring in Dioscorides as a synonyme of Xanthium and applied to the present genus by Ernst Meyer as expressive of the chief character, the gaping calyx. Cuneifolium, with wedge-shaded leaves.

### Synonymes.

Chascanum cuneifolium. E. Meyer's Commentationes, p. 276.
Buchnera cuneifolia. Thunberg: Flora Capensis edit. Schultes, p. 466.
Phryma dehiscens. Linnæus the younger, Supplementum, page 277.

*Jacquemontia pentantha.*

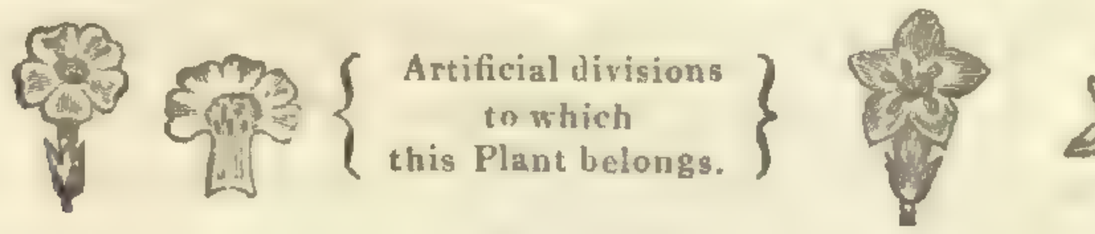
# JACQUEMONTIA PENTAN'THA.

## FIVE-FLOWERED JACQUEMONTIA.

EXOGENÆ, OR DICOTYLEDONEÆ.

NATURAL ORDER, CONVOLVULACEÆ.

COROLLIFLORÆ, OF DECANDOLLE.




PENTANDRIA, MONOGYNIA, OF LINNEUS.

No. 197.

GENUS. JACQUEMONTIA. *CHOISY*. CALYX quinquesepalus. COROLLA campanulata, limbo quinqueplicato. STAMINA quinque, basi corolla inserta, inclusa, filamentis basi dilatatis. OVARIUM biloculare, loculis biovulatis; septula inter ovula collateralia nulla. STYLUS simplex. STIGMATA duo, ovato-complanata. CAPSULA bilocularis. HERBÆ aut suffrutices Americanæ, suberectæ vel volubiles, foliis alternis, pedunculis axillaribus multifloris sæpe paniculatis, floribus sæpissime cæruleis.

SPECIES. JACQUEMONTIA PENTANTHA; CAULE glabriusculo, foliis cordato-acuminatis nunc glabris nunc pubescentibus etiam tomentosis, pedunculis folium sæpius superantibus multifloris, sepalis exterioribus majoribus.

CHARACTER OF THE GENUS, JACQUEMONTIA. CALYX divided into five sepals. COROLLA bell-shaped, the limb with five folds. STAMENS five, inserted in the base of the corolla, and shorter than it, the filaments dilated at the base. OVARY two-celled, each cell witht wo ovules, without any partition between them. STYLE simple. STIGMAS two, ovate-flattened. CAPSULE two-celled.

DESCRIPTION OF THE SPECIES, JACQUEMONTIA PENTANTHA. STEM shrubby at the base, twining, growing to the height of six feet or more. BRANCHES cylindrical, smooth, or more or less covered when young with short appressed hairs. LEAVES alternate, varying in shape from broad ovate to oblong, narrowed into a point at the apex, and more or less heart-shaped at the base, from one and a half to two inches long, nearly smooth or more or less covered with short appressed hairs, borne on a footstalk, about half an inch in length. PEDUNCLES axillary, varying very much in length, being sometimes shorter than the leaves, sometimes twice or thrice as long, usually more or less hairy towards the top. FLOWERS several on each peduncle, sometimes three to five with the pedicels so close as to form a sort of umbel, sometimes ten or twelve or even more, arranged in an irregular leafy raceme. BRACTS leaf-like, lanceolate, pointed, the upper ones much smaller and nearly linear. PEDICELS from two to three lines to nearly an inch long. SEPALS ovate, lanceolate, leaf-like, pointed, the two outer ones larger and broader, the third of the same length but narrower, the two inner ones considerably smaller. COROLLA of a rich blue, an inch and a quarter in diameter, sharply five-angled, the folds of a

paler colour on the outside. STAMENS considerably shorter than the corolla, dilated and almost monadelphous at the base, where they are slightly ciliated, filiform in the greater part of their length.

POPULAR AND GEOGRAPHICAL NOTICE. There are few numerous and natural tribes of plants in which there has been more confusion than among those of Convolvulaceæ, which were comprised in the old genera Ipomœa and Convolvulus. The few species known to Linneus (scarcely half a hundred) seemed at that time, indeed, to be not unaptly distributed into these two groups, but now that ten times that number are known, the attempt to reduce the whole to these two genera has so completely destroyed the value of their Linnæan character that several modern botanists have proposed to consider the whole but as one vast genus. This course is, however, practically inconvenient, and would become more and more so as considerable additions are daily made to the species, and therefore Choisy, a careful Genevese botanist, in a revision of the whole order, has divided them into about twenty genera, founded on distinctions derived chiefly from the ovary and the stigma, in most cases easily examined, especially in a fresh state, and generally tolerably natural. Among them Ipomœa and Convolvulus, as limited by him, still retain a great proportion of the species, and are only distinguished by the stigmas, which are globose in Ipomœa, linear in Convolvulus. Jacquemontia, to which the present plant belongs, has the same ovary as these two, but the form of the stigmas is intermediate, and the eleven species of which now it is composed are all natives of tropical America, with a peculiar habit and rich blue or rarely white flowers. Vahl, indeed, gave the name of violacea to the variety of our species which he first described, but as he appears only to have known it from dried specimens, there is reason to believe he was mistaken in the colour, on which account we have preferred Jacquin's specific name, although of later date.

It has long been an inmate of our gardens, and deserves to be much more encouraged, its lively-coloured flowers being particularly ornamental to the stove in spring. The Messrs. Lee, of Hammersmith, obligingly supplied the plant for figuring. It flourishes in peat and loam. G. B.

DERIVATION OF THE NAMES.

JACQUEMONTIA in honor of the late Victor Jacquemont, well known for his letters, published by his family after his lamented death in India, when on his return from a successful expedition as botanical collector to the Paris museum. PENTANTHA five-flowered, that being the usual number of flowers on each peduncle in the variety described by Jacquin.

SYNONYMES.

CONVOLVULUS VIOLACEUS. Vahl. Symbolæ, v. 3, p. 29.

CONVOLVULUS CANESCENS. Humboldt and Kunth: Nova Genera et Species, v. 3, p. 99.

CONVOLVULUS PENTANTHA. Jacquin: Icones Rariores, v. 2, t. 316. Botanical Magazine, t. 2151. Botanical Register, t. 439.

JACQUEMONTIA VIOLACEA. Choisy: Convolvulaceæ Rariores, Diss. 2, p. 139.

*Hippocalyptus obcordatus.*

# HYPOCALYPTUS OBCORDATUS.

## OBCORDATE-LEAVED HYPOCALYPTUS.

EXOGENÆ. OR DICOTYLEDONEÆ.

{ Natural division to which this Plant belongs. }

NATURAL ORDER, LEGUMINOSÆ.

CALYCIFLORÆ, OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }

MONADELPHIA, DECANDRIA, OF LINNEUS.

No. 198.

**GENUS.** HYPOCALYPTUS. *THUNBERG.* CALYX laxe campanulatus, demum basi intrusus, breviter bilabiatim quinquedentatus. COROLLA papilionacea, petalis breviter unguiculatis; vexillum orbiculatum, patens; alæ oblique obovato-oblongæ, patentes, vexillo æquilongæ, a carina liberæ; carina incurva, rostrata, alis brevior, petalis dorso connatis. STAMINA alte connata, vagina integra. ANTHERÆ alternæ ovatæ, alternæ oblongæ. OVARIUM pluriovulatum, subsessile. STYLUS filiformis. STIGMA parvum, obliquum, capitatum. LEGUMEN lineare, plano-compressum, coriaceum, sutura vexillare incrassata, bivalve, uniloculare, polyspermum. SEMINA subreniformia, strophiola parva aucta.

**SPECIES.** HYPOCALYPTUS OBCORDATUS; (*THUNBERG*) frutex, foliis palmatim trifoliolatis, foliolis obcordatis obovatisve floribus racemosis terminalibus, bracteis bracteolisque subulatis.

CHARACTER OF THE GENUS, HYPOCALYPTUS. CALYX loosely bell-shaped, at length projecting inwards at the base, with five short teeth arranged in two lips. COROLLA papilionaceous, the petals on very short claws; the standard rounded, spreading; the wings obliquely obovate-oblong, spreading, equal to the standard in length, free from the keel; the keel curved, beaked, shorter than the wings, its two petals joined at the back. STAMENS connected high up into an entire tube. ANTHERS alternately ovate and oblong. OVARY with many ovules, nearly sessile. STYLE filiform. STIGMA oblique, small, capitate. POD linear, flat, coriaceous; the upper suture a little thickened, two-valved, one-celled, many-seeded. SEEDS reniform, with a small strophiola.

DESCRIPTION OF THE SPECIES, HYPOCALYPTUS OBCORDATUS. SHRUB six or eight feet high, erect, much branched. BRANCHES thickly covered with leaves, striate, smooth or slightly hairy when young. STIPULES small, setaceous, deciduous. LEAVES of three leaflets, palmately arranged at the top of a stiff petiole from one to five lines long, and often hairy when young. LEAFLETS from half an inch to an inch long, and often nearly as broad, obcordate or obovate, the midrib ending in a small point, entire, narrowed at the base into a very short partial stalk, rather rigid, veined, usually more or less folded along the midrib, smooth when full grown, but often hairy when young. FLOWERS numerous, crowded into a short simple raceme at

REFERENCE TO THE DISSECTIONS.

1, Calyx and Stamens. 2, Standard. 3, Wings. 4, Keel. 5, Ovary.

the ends of the branches. PEDICELS at first from a quarter to half an inch long; often nearly an inch long when the pod is ripe, smooth, or more frequently slightly hairy. BRACTS at the base of the pedicels, and bracteolæ about half way up, subulate, very deciduous, leaving a small toothlike scar. CALYX about two lines long, more or less coloured, smooth or slightly hairy; the two upper teeth very broad with a sharp angle on the interior side, lateral teeth broadly ovate, lower one narrower, pointed, all of them less than half a line long. STANDARD more than twice as long as the calyx, of a rich purplish red, with a thickened white spot at the base, the very short claw bent inwards. WINGS of the colour of the standard, with a fine subulate tooth at the base on the inner side. KEEL rather deeper coloured, each petal with a tooth at the base like the wing. OVARY smooth, nearly sessile, without any sheaf round the base, with about ten ovules. POD about two inches long and three lines broad, narrowed at the base, terminated by the subulate style, perfectly smooth.

POPULAR AND GEOGRAPHICAL NOTICE. This and some other Cape shrubs were connected together by Thunberg, for reasons not now very intelligible, under the generic name of Hypocalyptus, derived from the hood-shaped bracteæ of the Podalyria stracifolia, one of the species in question. It has since been shown that all belong to Podalyria or Virgilia except the species now described, which forms a distinct genus, adopted by all botanists under Thunberg's name, unfortunately inapplicable to it, if any importance be attached to its etymology. It would have been better, therefore, if Thunberg's name had been retained as a mere sectional designation for the Podalyriæ with calyptriform bracts, and a new name given to the present plant, but it does not now appear worth while to make the change, and thus add to the synonymes. From wild specimens it would appear that there is a larger variety of this plant with obovate leaves, larger flowers, and said to become a tree, but some specimens again are intermediate. The species has an extensive range, having been found in rocky situations, from the chain of the Cederbergen to the hills of the province of Swellendam. G. B.

INTRODUCTION; WHERE GROWN; CULTURE. Hypocalyptus obcordatus was introduced to this country in 1823 as Crotalaria cordifolia. Our drawing was made in the Birmingham Horticultural Society's Garden, where the plant has greenhouse protection, is potted in sandy loam and peat, and increased by cuttings of the half-ripened wood.

### DERIVATION OF THE NAMES.

HYPOCALYPTUS from ὑπο under, and καλυπτος covered or hid, in allusion to the bracts of a supposed species, as above mentioned. OBCORDATUS, obversely heart-shaped.

### SYNONYMES.

CROTALARIA CORDIFOLIA. Linnæus: Mantissa, p. 266. Loddiges' Botanical Cabinet, t. 1158.

HYPOCALYPTUS OBCORDATUS. Thunberg: Flora Capensis ed. Schultes, p. 570, De Candolle Prodromus, v. 2, p. 537.

*Obeliscaria Drummondii.*

# OBELISCA'RIA DRUMMON'DII.

## DRUMMOND'S OBELISCARIA.

EXOGENÆ, OR DICOTYLEDONEÆ.

{ Natural division to which this Plant belongs. }

NATURAL ORDER, COMPOSITÆ.

CALYCIFLORÆ OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }

SYNGENESIA, FRUSTRANEA, OF LINNEUS.

No. 201.

GENUS. Obeliscaria. *Cass.* Capitulum multiflorum heterogamum, fl. radii ligulatis 1-serialibus neutris, disci hermaph. tubulosis 5-dentatis. Involucr. 1- seriale, squamis paucis linearibus patulis. Recept. elongatum spiciforme, paleis complicatis apice hirsutis achænia disci semiamplectentibus. Styli rami breves in appendicem parce barbellatam producti. Achænia radii trigona hispida abortiva, disci bilateraliter compressa ovalia calva antice margine subalata aut apice unidentata. Herbæ Bor. Americanæ erectæ speciosæ glabriusculæ. Caulis striato-sulcatus. Folia alterna aut irregulariter subverticillata, pinnatisecta, petiolo striato, lobis 8-9 (3-9) nunc indivisis, nunc pinnatipartitis. Rami apice longe aphylli 1-cephali. Ligulæ flavæ aut croceæ. Discus cylindricus, floribus parvis fuscis innumeris.

SPECIES. Obeliscaria Drummondii (*Graham*) scabro-pubescens; foliis lyrato-pinnatifidis, segmentis subintegris; flosculis radii 5, rotundatis, pendulis.

Character of the Genus, Obeliscaria. Capitulum many-flowered, heterogamous, flowers of the ray in one row ligulate neuter, of the disk hermaphrodite tubular five-toothed. Involucre one-rowed, of few linear spreading leaflets. Receptacle elongated spike-like, the chaffs folded hirsute at the apex and half including the achenia. Branches of the style short, extended into a lanceolate appendage sparingly bearded. Achenia of the ray three-angled, hispid, abortive; those of the disk compressed on the sides, oval without pappus, somewhat winged on the anterior edge, or with one tooth on the apex.

Description of the Species, Obeliscaria Drummondii. Stems many, sub-simple, rising from the crown of the root, very long, wiry flaccid, angled and furrowed, green, rough with short harsh adpressed hairs. Leaves deeply lyrato-pinnatifid, 3-7-lobed, scabrous from short harsh subadpressed hairs which point forwards; lobes linear-oblong, blunt, 3-nerved, the middle nerve forming a strong rib prominent behind, the two others being less prominent, more slender, waved, and distantly reticulated; middle lobe occasionally slightly incised. Peduncles (above $1\frac{1}{2}$ foot) long, terminal, angled, and scabrous like the stem, single-flowered. Involucre of five unequal subulato-linear

spreading leaflets. FLORETS of the ray five, neuter, with a very large suborbicular limb ($1\frac{1}{2}$ inch across) waved, somewhat plicate, pendulous, more than the lower half being stained on its anterior surface of a deep brown, the remainder, both in front and behind, being a bright yellow, except where the colour is stained behind by the brown in some degree appearing through it from the front; tube very short. DISK ovate; florets green, tube shining, barrel-shaped, limb short and revolute, segments ovate, much darker than the tube, warted; stamens rising near the base of the tube; anthers dark brown, half-exserted; pollen yellow, granules orbicular; style below the cleft scarcely longer than the stamens, the segments linear, furrowed along the centre in the inside; the stigmatic surface brown, warted, and near the apex bearded; achenia compressed, glabrous, colourless, bordered along the outer edge; pappus of two short unequal teeth. RECEPTACLE chaffy; chaffs clavato-naviculate, embracing the achenia than which they are scarcely longer, cucullate herbaceous and villous at the top, flat membranous and wedge-shaped on the sides, each of which has a large oblong black mark in the middle.

POPULAR AND GEOGRAPHICAL NOTICE. This genus is one of those which has been removed from the heterogeneous assemblage of plants, which were formerly included under the name of Rudbeckia, and the character by which it may be distinguished seems perfectly good. The involucre seems to me to be certainly of one row, and the suspicion expressed by De Candolle that what has been called the scales of an inner row, are probable the outer chaffs of the receptacle, is obviously correct. De Candolle reckons only four species, and expresses doubts about one of these. The present plant is altogether different from any of them, but perfectly agrees in generic relationship. They are all natives of North America, but the exact locality of this one I do not know.

INTRODUCTION; WHERE GROWN; CULTURE. The plant figured was received from Mr. Rollison, and flowered in the greenhouse of the Royal Botanic Garden, Edinburgh, in August, 1840. There is every reason to believe it will bear cultivation without any particular care in the open ground. The flowers remain in perfection for weeks, and there is an abundant succession on the plants.

### DERIVATION OF THE NAMES.

OBELISCARIA probably οβελισκος and *καρα* in allusion to the elevation of the disk of the flower. DRUMMONDII from the late Mr. Drummond, to whom we owe its introduction into Britain.

### SYNONYME.

RUDBECKIA DRUMMONDII. Paxton's Magazine of Botany, 1839, 51. GRAH.

*Comparettia coccinea.*

# PODALY'RIA BUXIFO'LIA.

## BOX-LEAVED PODALYRIA.

EXOGENÆ. OR DICOTYLEDONEÆ.

{ Natural division to which this Plant belongs. }

## NATURAL ORDER, LEGUMINOSÆ.

CALYCIFLORÆ, OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }

DECANDRIA, MONOGYNIA, OF LINNEUS.

No. 204.

GENUS. PODALYRIA. *LAMARCK*. CALYX laxe campanulatus, demum basi intrusus, quinquefidus. COROLLA papilionacea, petalis breviter unguiculatis; vexillum amplum, orbiculatum, emarginatum, patens, alæ obovatæ, obliquæ; carina alis brevior, ovata vel late obovata incurva obtusa. STAMINA decem, basi brevessime connata, cæterum libera, glabra. OVARIUM sessile, villosum, pluri-ovulatum. STYLUS filiformis. STIGMA parvum. LEGUMEN ovale vel oblongum, coriaceum, turgidum, villosum. FRUTICES capenses, foliis simplicibus, alternis, pedunculis axillaribus solitariis, unifloris vel paucifloris, bracteis deciduis forma variabilibus, bracteolis nullis, floribus purpureis roseis vel albidis.

SPECIES. PODALYRIA BUXIFOLIA; (*LAMARCK*) FOLIIS ovatis rarius oblongis supra glabris subtus dense sericeis, pedunculis uni- rarius bifloris, bracteis parvis cuneatis, calycis hirsuti lacıniis lanceolatis carina brevioribus, superioribus binis semi connatis, supra subgibbosis.

CHARACTER OF THE GENUS, PODALYRIA. CALYX loose, bell-shaped, at length projecting inwards at the base. COROLLA papilionaceous, the petals on very short claws; the standard large, orbicular emarginate, spreading; the wings obovate, oblique; the keel shorter than the wings, ovate or broadly obovate, curved, blunt. STAMENS ten, slightly connate at the base, free from thence, smooth. OVARY sessile, hairy, with many ovules. STYLE filiform. STIGMA small. POD oval or oblong, swollen, thick, and hairy.

DESCRIPTION OF THE SPECIES, PODALYRIA BUXIFOLIA. STEM shrubby, erect, much branched, young branches clothed with a soft down, older ones often smooth. STIPULES small, linear lanceolate, deciduous. LEAVES simple, nearly sessile, broadly or narrowly ovate, sometimes nearly orbicular, rarely oblong, usually blunt, with a very small projecting point, from half an inch to three quarters in length, perfectly smooth on the upper side, clothed with thick silky hairs underneath, the margins recurved. PEDUNCLES axillary, sometimes one-flowered, and very short, at others nearly two inches long and bearing two pedicellate flowers. BRACTS at the base of the pedicels, or in the middle of the one-flowered peduncle, small, oblong or cuneate, falling off early. CALYX thick and hairy, divided to about the middle, the divisions broadly lanceolate, shorter than the keel, all

of the same length, but the two upper ones connected together above the middle, and curved forward at the top. Petals of a rich rose colour, the standard nearly an inch and a half broad, the wings not half so broad, but nearly as long, and closed over the keel, which is shorter, much curved, the petals joined at the back. Pod about an inch long, very hairy.

Popular and Geographical Notice. Podalyria is a genus of about twenty species, all shrubs, mostly ornamental, and confined, as far as hitherto known, within the limits of the Cape Colony. The genus itself is well limited; it approaches nearest to Cyclopia, and to Priestleia, both likewise Cape genera, but the former is at once known by its flat pod and tri-foliolate leaves, and the latter by the stamens more perfectly connate. The distinction of the species offer however more difficulty than perhaps any other group of the same extent, and the synonymy is in the greatest confusion. This is owing in the first place to the very different aspect of the leaves and inflorescence on the main branches of the plants as they usually grow among bushes, to that which they assume on young vigorous shoots in rich shady situations; but the confusion arises still more from the very imperfect specimens preserved in herbaria, and the number of loose and imperfect descriptions published. The plant now figured is certainly the buxifolia of some authors, it is the short peduncled one-flowered state of the plant figured under that name by Lamarck, it is also the glauca of De Candolle and Ecklon, it is one of those considered by Willdenow as buxifolia, but it does not appear to be the buxifolia of Ecklon, nor yet that of Drege. It were much to be wished that some botanist resident at the Cape, and having opportunities of observing the species in their fresh state, would take up the genus.

Introduction; Where grown; Culture. Podalyria buxifolia is not of recent introduction to England, but is still scarce and possessed of much beauty. Our drawing was made at the establishment of Messrs. Low of Clapton. It should be potted in a mixture of peat and loam, and might be renewed by cuttings; but seeds produce the best plants. It requires greenhouse protection. G. B.

### Derivation of the Names.

Podalyria, said by some to have been named after Podalirius, a son of Æsculapius, but this is not probable, as the spelling is different. The apparent Greek etymology, πους ποδος, a foot or stalk, and λυριον, a little lyre, is not more satisfactory, and we find no record of Lamarck's own views in forming the word. Buxifolia, box-leaved.

### Synonymes.

Podalyria buxifolia. Lamarck: Illustrations, t. 327, p. 3. Bot. Reg. t. 869.
Podalyria glauca: De Candolle, Prodromus, v. 2, p. 102.
Hypocalyptus glaucus: Thunberg, Flora Capensis, p. 569.

Crocus Medullus.

# CYPEL'LA HERBER'TI.

## MR. HERBERT'S CYPELLA.

ENDOGENÆ OR MONOCOTYLEDONEÆ.

{ Natural division to which this Plant belongs. }

NATURAL ORDER, IRIDACEÆ.

EPIGYNOSÆ, OF LINDLEY.

{ Artificial divisions to which this Plant belongs. }

MONADELPHIA, TRIANDRIA, OF LINNEUS.

No. 199.

GENUS. Cypella: *Herbert*. Perigonium corollinum superum, hexaphyllo-partitum, laciniis basi concavis, exterioribus majoribus patentibus; interioribus minutis, convolutis, apice reflexis. Stamina tria, perigonii laciniis exterioribus basi inserta, filamenta brevissime coalita, subulata; antheræ oblongæ, basifixæ, loculis connectivum marginantibus. Ovarium inferum, oblongo-prismaticum, triloculare. Ovula plurima, in loculorum augulo centrali biseriata. Stylus brevis, filiformis; stigma dilatatum, trilobum, lobis erectis, trifidis, basi transverse appendiculatis. Capsula membranacea, oblongo-prismatica, trilocularis, loculicido-trivalvis. Semina plurima, angulata. Herbæ perennes, in America tropica et australi sub-tropica indigenæ; rhizomate bulboso-tuberoso caule, erecto, folioso, apice ramoso, foliis late lineari-lanceolatis, plicato-nervosis, floribus laxe paniculatis, magnis, speciosis, spathis diphyllis, unifloris. *Endlicher*; Genera Plantarum, p. 166.

SPECIES. Cypella Herberti; (*Herbert*) Foliis linearibus plicatis scapo ramoso multiflori brevioribus, spathis inflatis flore multo brevioribus, laciniis perigonii exterioribus tortis apice caudatis, interioribus exiguis abrupte-incurvo-revolutis purpureo penicellatis. *Sprengel*.

Character of the Genus, Cypella. Perigone resembling a corolla, superior, formed of six folioles, concave at the base, the three exterior larger, spreading; the interior ones small, convolute, reflexed at the point. Stamens three, inserted at the base of the exterior folioles, filaments very slightly united, subulate; anthers oblong, attached at the base; the cells forming a margin to the connectivum. Ovary inferior, oblongo-prismatical, three-celled. Ovules numerous, arranged in a double series in the central angle of the cells. Style short, filiform; stigma dilated, three-lobed; lobes erect, three-cleft, transversely furnished with an appendix at the base. Capsule membranaceous, oblongo-prismatical, three-celled, splitting by a loculicidal dehiscence into three valves. Seeds numerous, angular.

Description of the Species, Cypella Herberti. Permanent stem a solid bulb, about an inch in length, and acutely-ovate; sending up annually leaves and a flower stem. Radical leaves, broadly-linear-lanceolate, plaited. Flower stem about two feet high, flexuose, subglaucous, regularly dichotomous, and furnished with two unequally-sized bracts at the point of bifurcation. Flowers in a loose panicle, the peduncles from three to six in number, each about four inches long, exceeding the spathes in length, and bearing a single orange-coloured flower. Perigone of six folioles, having a singularly cup-shaped

depression at the base where they are minutely marked with purple. The three exterior large, spreading, rather narrow at the middle, dilated above, somewhat undulating at the margin, traversed from the point of dilatation to the apex by a dark purple line, which terminates in an acute mucro or tip: the three interior very much smaller, forming a double curve, so as to be very much recurvate at the apex, orange-coloured at the sides and margined internally by two pencilled lines, bordering a light greenish yellow stripe, which passes from the cup to the apex. STAMENS three, inserted by very short filaments into the base of the three exterior folioles. ANTHERS erect, the cells forming an adherent margin to the connectivum; pollen greenish, ovary inferior, oblongo-prismatical. STYLE one, short. STIGMA dark purple, two-lobed, each lobe three-cleft, the outer point shorter and obtuse, the inner acuminate and horned, the third curved downwards outwardly. CAPSULE three-celled, many-seeded; seeds small, brownish.

POPULAR AND GEOGRAPHICAL NOTICE. This interesting plant is the produce of both tropical and subtropical regions of South America, being found in Brazil in the former, and near Buenos Ayres in the latter. The succession of flowers which clothes its delicate stems is not the only circumstance which should recommend it to our attention. The singular structure of its stigmas arrest our observation, from connecting in one series the Tigridias and Moreas with the Iris, in which last the stigmas are distinctly petaloid. The great diversity of form and character which this small organ exhibits in these plants, shews how infinite is the power of the Original Designer, to whom every fresh example of his exquisite contrivances should conduct our thoughts. "It is of peculiar importance to our reasoned comforts" observes Sharon Turner, "to that happiness which we derive from our intellectual convictions—that we possess, in the beauties and blessings of the vegetable creation, such universal and exuberant witnesses to us, of the benignity and philanthrophy of the Divine Creator."

INTRODUCTION; WHERE GROWN; CULTURE. Introduced in 1823, by seeds from Buenos Ayres. For the flower from which our drawing was made, we are inbebted to the Rev. H. T. Ellacombe of Bitton, near Bristol; a gentlemen whose obliging attentions we have had frequent occasion to acknowledge.

It should be planted in a light soil, containing a mixture of peat; and need not be taken up for many years, provided the bulbs be properly protected in the winter. It flowers in June and July, and ripens abundance of seeds.

### DERIVATION OF THE NAMES.

CYPELLA from Κυπελλον, KUPELLON, a kind of cup, alluding to the cup-like depression in the centre of the flower. HERBERTI in compliment to the Honourable and Reverend George Herbert.

### SYNONYMES.

TIGRIDIA HERBERTI. W. H. Bot. Mag. t. 2699.
MORÆA HERBERTI. Lindley; Bot. Reg. 949.
CYPELLA HERBERTI. Sweet: British Flower Garden. II, t. 33.

# ACANTHEPHIP'PIUM BI'COLOR.

## TWO-COLOURED ACANTHEPHIPPIUM.

ENDOGENÆ, OR MONOCOTYLEDONEÆ.

Natural division to which this Plant belongs.

NATURAL ORDER, ORCHIDACEÆ.

GYNANDROSÆ, OF LINDLEY.

Artificial divisions to which this Plant belongs.

GYNANDRIA, MONANDRIA, OF LINNEUS.

No. 200.

GENUS. ACANTHEPHIPPIUM. *BLUME.* PERIGONII ventricosi foliola exteriora conglutinata, lateralia ungui columnæ adnata, supremum cum interioribus spathulatis fornicatum. LABELLUM cum pede columnæ longe producto elastice articulatum, unguiculatum, limbo trilobo, complicato, disco lamellato. COLUMNA semiteres. ANTHERA carnosa, bilocularis. POLLINIA octo, inæqualia, sessilia. HERBÆ indieæ, epigacæ, subcaulescentes; caule inferne bulboso, vaginato, foliis oblongo-lanceolatis, plicatis, pedunculo vaginato pauciflоro, floribus speciosis. *ENDLICHER:* Genera Plantarum, p. 200.

SPECIES. ACANTHEPHIPPIUM BICOLOR; (*LINDLEY.*) PETALIS oblongo-lanceolatis acutiusculis, labelli lobis lateralibus rotundatis, perianthio ovato.

CHARACTER OF THE GENUS, ACANTHEPHIPPIUM. The exterior folioles of the ventricose perigone agglutinated, the lateral ones adnate to the claw of the column, the upper one arched with the interior spatula-shaped, LIP elastically articulated with the foot of the column, which is very greatly prolonged, unguiculate, limb three-lobed, folded, disk lamellate. COLUMN roundish. ANTHER fleshy, two-celled. POLLEN MASSES eight, unequal, sessile.

DESCRIPTION OF THE SPECIES, ACANTHEPHIPPIUM BICOLOR. The plant growing on the earth. PSEUDO-BULBS oblongo-ovate, corrugated, dark-green, contracted a little towards the neck, clothed with the remains of the former leaves. LEAVES rarely more than two or three, oblongo-lanceolate, plaited, erect, narrowed at the base, but without any petiole. PEDUNCLE radical, clothed with large ovate concave, brown scales bearing about four or five flowers. PERIGONE fleshy, an inch and a half long, ovate, or subconical, yellowish, except where it spreads out at the apex where it is of a deep purple. SEPALS all conglutinated, oblong, obtuse, the lateral ones oblique at the base, and inserted into the base of the prolonged column. PETALS of equal length, less marked at the apex, linear, oblong, acute. LIP articulated with the long foot forming the claw of the column, inflexed, folded,

three-lobed; the lateral lobes rounded, the intermediate one of a more yellow colour, fleshy and roughish, plates of the disk two only, concave, and separated by a raised line. COLUMN roundish, acute; stigma margined; clinandrium devoid of a margin, sloping. POLLEN MASSES eight, arranged in pairs, and sessile on the gland, which is emarginate anteriorly.

POPULAR AND GEOGRAPHICAL NOTICE. This species, of a genus of orchidaceous plants found as yet only in the east, is a native of Ceylon. Of the other species, one Acanthephippium Javanicum is from Java, the second from the woods of Sylhet, Acanthephippium Sylhetense. All three are terrestrial in their place of growth, and not epiphytes. It is often difficult to find objects to which to liken the various plants in this tribe, which are so singularly diversified in form; but clustered as the flowers are in this species, they resemble a number of gaudy plumaged young birds crowded in their nest, the unexpanded flowers being like those which have the beak closed, while the others seem like the nestlings gaping for food.

INTRODUCTION; WHERE GROWN; CULTURE. Sent in 1833, by Mr. Watson, superintendant of the Government Garden, at Peradenia, Ceylon, to the Horticultural Society. Our drawing was made in the now greatly enlarged orchidaceous house of the Messrs. Loddiges, where it flowered in June, 1839. It grows in a mixture of peat and sand, having a bottom of pot-shreds, to insure a free drainage. It exhibits the characteristics of tropical vegetation, in requiring a great deal of heat and moisture while growing, and a change to a cool and dry atmosphere, each year during the season of repose.

### DERIVATION OF THE NAMES.

ACANTHEPHIPPIUM, from *Ακανθος*, ACANTHOS, a thorn or spine, and *εφιππιον* EPHIPPION, a saddle, but what connection this has with Blume's species seems incomprehensible. BICOLOR two-coloured, from the party-coloured flower.

### SYNONYME.

ACANTHEPHIPPIUM BICOLOR. Lindley: Botanical Register, t. 1730.

*Witsenia corymbosa*

# WITSE'NIA CORYMBO'SA.

## CORYMBOSE WITSENIA.

ENDOGENÆ OR MONOCOTYLEDONEÆ.

{ Natural division to which this Plant belongs. }

NATURAL ORDER, IRIDACEÆ.

EPIGYNOSÆ, OF LINDLEY.

{ Artificial divisions to which this Plant belongs. }

TRIANDRIA, MONOGYNIA, OF LINNEUS.

No. 202.

GENUS. WITSENIA. *THUNBERG.* COROLLA regularis, tubulosa, limbo sex-partito, vel tota hexapetalo-partita. STAMINA erecta, laciniarum basi adnata. STIGMATA tria. CAPSULA 3-locularis, polysperma. SEMINA augulato-pressa. SUFFRUTICES. Radix rhizoma ligneum, fibratum, abiens in caulem sursum foliis obtectum, ancipitem, adpresse ramosum; inferius articulatim cicatrizatum, articulis eundo brevioribus denuoque ad folia confertissimis; hæc perennia, sursum tendentia, flabellatim disticha, basin versus imbricato-equitantia, linearia-ensiformia, conduplicanter fissilia, superiora longiora.

SPECIES. WITSENIA CORYMBOSA; (*GAWLER*) floribus corymbosis, Corolla hypocrateriformii, glabra.

CHARACTER OF THE GENUS, WITSENIA. COROLLA regular, tubular, with a six-partite limb, or cut nearly to the base into six petals. STAMENS erect, inserted into the base of the segments. STIGMAS three, (4-6.) CAPSULE three-celled, many-seeded. SEEDS angular from mutual impression.

DESCRIPTION OF THE SPECIES, WITSENIA CORYMBOSA. SUFFRUTICOSE (the specimen described forming a round bush, $2\frac{1}{2}$ feet high.) STEM at first flat and two-edged, but becoming round, and having a rough brown cracked surface, much branched, the branches erect, soon becoming naked below, and towards the apex giving origin to many leaves which are distichous, equitant, flat, glaucous, and in their upper half linear-lanceolate. PEDUNCLE terminal, flat, and two-edged, less glaucous than the leaves, corymbose, the branches trigonous, springing from the axils of sharply keeled and gradually diminishing bracts. At the base of each branch there is generally a fascicle of pedicellate flowers, each pedicel having at its base a small brown scale, and at its apex three, the two outer of which are equitant and herbaceous, the inner larger, membranous, bifid at the apex, involute, inclosing the germen and lower part of the tube of the corolla. PERIANTH single, of fine azure blue, salver-shaped, the tube cylindrical, twice as long as the inner scale; limb six-partite, imbricated in bud, as long as the

tube, segments elliptical, glabrous, excepting where there are a few very minute, almost microscopic, inverted hairs in the throat. STAMENS opposite to the three outer segments and inserted at their base; filaments very short, anthers adnate, yellow, bilocular, bursting along the edges. PISTIL projecting from the centre of the flower, nearly as long as the segments of the perianth; style colourless, glabrous, cleft at the apex into 4-6 segments, each crowned with a fimbriated stigma; germen inferior, but with six minute lobes projecting from its apex above the origin of the corolla, ovate, three-celled, ovules several in each cell, placentæ central.

POPULAR AND GEOGRAPHICAL NOTICE. The genus Witsenia was established by Thunberg in his Nova Genera, and a single species named. The character was revised by Mr. Gawler, in the Annals of Botany, 1, 236, but the present plant was first described and figured by the latter botanist in the Botanical Magazine, in 1805. Few things can be more unlike in the flower than the species of Witsenia are to each other, and they are scarcely held together without reversing the Linnean rule for the establishment of Generic character. He drew these only from the parts of the flower and fruit, and too absolutely considered habit an insufficient ground. Here the identity of habit seems the great bond of union, the flower, and in some respects the fruit, being disregarded. There has been a difference of opinion among botanists as to the species which belong to this genus, but probably it should be so restricted as to contain only those of the Cape of good Hope. M. Ventenat separated the present species under the generic name Nivenia, but he has not been generally followed.

INTRODUCTION; WHERE GROWN; CULTURE. Witsenia corymbosa was introduced into cultivation from the Cape of Good Hope by Mr. Hibbert at Clapham, about 1803, and is deservedly a great favourite in cultivation, on account of the profusion of extremely brilliant flowers which it produces in long succession during a great part of the season. With us, in the Edinburgh Royal Botanic Garden, it is cultivated in a cool stove, and there thrives extremely. The rage for new things, naturally enough excited by many splendid novelties, but which has too frequently caused the neglect of greater beauties of longer standing, has not been able to expel it from our collections.

### DERIVATION OF THE NAME.

WITSENIA, named after Mr. Witsen, a Dutch botanist.

### SYNONYMES.

WITSENIA CORYMBOSA. Gawler: in Bot. Mag. 895. Hort. Kew. 1, 110. Spreng. Syst. Veget. 1, 147.

GRAH.

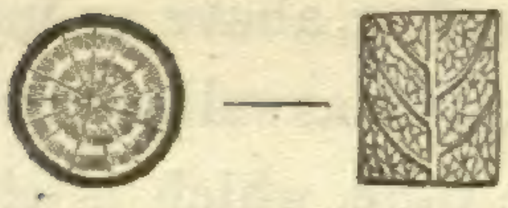
*Stephanotis floribunda.*

Watts, sculp

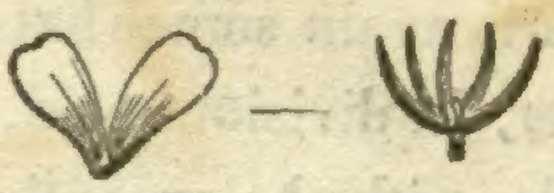
# STEPHANO'TIS FLORIBUN'DA.

## MANY-FLOWERED STEPHANOTIS.

EXOGENÆ, OR DICOTYLEDONEÆ.



{ Natural division to which this plant belongs. }



NATURAL ORDER, ASCLEPIADACEÆ.

COROLLIFLORÆ, OF DECANDOLLE.

{ Artificial divisions to which this Plant belongs. }

PENTANDRIA, DIGYNIA, OF LINNEUS.

No. 203.

GENUS. Stephanotis. *Du Petit-Thours.* Calyx quinquesepalus, corolla brevior. Corolla hypocrateriformis, laciniis obliquis contortis. Corona staminea simplex, pentaphylla, laciniis simplicibus membranaceis erectis integris. Antheræ membrana superatæ; massæ pollinis geminæ, erectæ basifixæ. Stigma conicum, acutum. Folliculi duo, horizontales, crassi, acuminati, seminibus papposis. Frutices madagascarienses volubiles; foliis oppositis coriaceis lævissimis, floribus ternatis vel umbellatis, pedunculo communi interpetiolari. Adolphe Brogniart Annales des Sciences Naturelles, 2nd series, v. 7, p. 30.

SPECIES. Stephanotis floribunda; (*Adolphe Brogniart.*) Foliis ellipticis retusis vel brevissime acuminato-uncinatis, floribus quinque ad octo umbellatis, sepalis ovatis tubo corollæ quadruplo brevioribus, laciniis coronæ stamineæ ovatis, antherarum membrano brevioribus.

Character of the Genus, Stephanotis. Calyx divided into five sepals, shorter than the corolla. Corolla salver-shaped, the divisions of the limb oblique, twisted in the bud. Staminal crown simple, of five leaflets, the divisions simple, membranous, erect, entire. Anthers surmounted by a membrane, the pollen-masses two together, erect, fixed by their base. Stigma conical, pointed. Follicles two, horizontal, thick, pointed, with tufted seeds.

Description of the Species, Stephanotis floribunda. Stem shrubby, climbing; young branches green, smooth, and shining. Leaves opposite, borne on footstalks nearly an inch in length, ovate elliptical, blunt or retuse at the end, the midrib often projecting into a short blunt point, perfectly entire, rounded or slightly heart-shaped at the base, thick, smooth, and shining, especially on the upper surface, three to five inches long. Peduncle inserted laterally between the petioles, rather shorter than the leaves, bearing at the extremity an umbel of six or eight large white fragrant flowers. Bracts very small at the base of each pedicel. Pedicels about an inch long, thick and

smooth. SEPALS ovate, blunt, of a pale green, about three lines long, smooth. COROLLA of a pure white, the tube about an inch long, rather swelled at the base, and gradually contracted to a little below the throat, which is again somewhat expanded; limb spreading, above an inch diameter, the divisions oval, blunt, smooth on both sides as well as the whole corolla, with the exception of the inside of the tube, which is clothed with reflexed hairs. STAMENS and PISTIL combined into a conical body, in the bottom of the tube of the corolla, about four lines long. FILAMENTS thick and fleshy, forming a tube completely enclosing the ovary. STAMINAL CROWN formed of five oblong lanceolate membranous plates, blunt at the extremity, and shorter than the white broadly ovate membranes of the anthers. POLLEN-MASSES (within these membranes) erect, attached by their base. OVARIES two, enclosed within the staminal tube, but not adhering to it, and distinct from each other, contracted into two very short styles, which support the large conical stigma to which the anthers adhere.

POPULAR AND GEOGRAPHICAL NOTICE. Stephanotis is a Madagascar genus, of which three species only are hitherto known, all probably possessing the same fragrant white flowers as the species now figured, the only one as yet in European stoves. The size of the flowers gives them much of the general appearance of an Echites, belonging to the Apocynaceæ, but the structure of the stamina at once places them amongst Asclepiadaceæ, where they are allied to Pergularia, with some resemblance in the flower, but less in essential character, to the Brasilian Schubertia.

INTRODUCTION; WHERE GROWN; CULTURE. A plant of this species raised in the Botanic Garden, in the Isle of Bourbon, from Madagascar seeds, was brought to Paris, by Mr. Belanger, several years since, and presented by him to the Jardin du Roi. It flowered there, for the first time, in May, 1834, and it is from thence, probably, that it has found its way into our collections. It makes a handsome appearance in the stove when properly trained to a pillar, trellis, or the rafter of the house, its dark bright foliage contrasting finely with its large umbels of white flowers. It should be potted in peat and loam.

STEPHANOTIS, from *στεφανος*, a crown, and *ὠτις*, derived from *ας*, an ear, in allusion to the auricles of the staminal crown, a meaning however which, if the rules of composition had been followed, ought to have been rendered by Otostephanos. FLORIBUNDA, many-flowered.

STEPHANOTIS FLORIBUNDA. Adolphe Brogniar: Annales des Sciences Naturelles, 2nd Sèrie Botanique, v. 7, p. 30.